

KIC 008564674

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
008564674-01	OBS	2022.01	5.929767	135.491007	421.4	2.824	30.5	32.8	0.96	5741	2.49	211.40
008564674-02	OBS	2022.02	12.247635	138.219454	457.3	3.853	23.2	25.7	0.96	5741	2.56	80.37

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008564674-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008564674-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

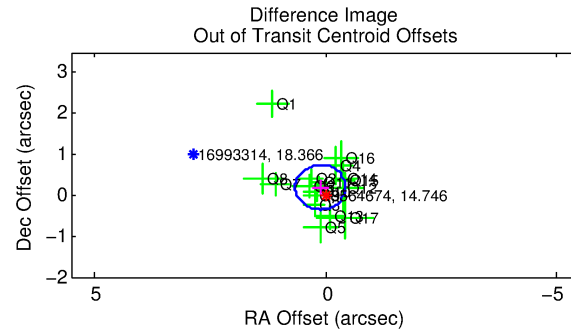
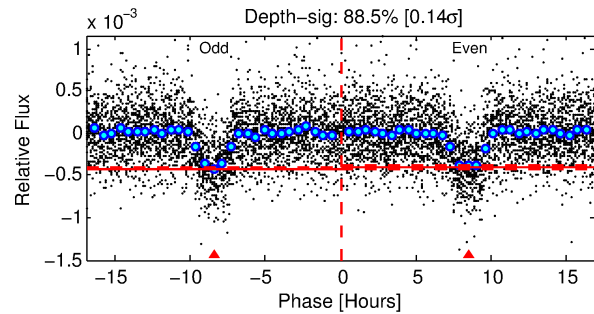
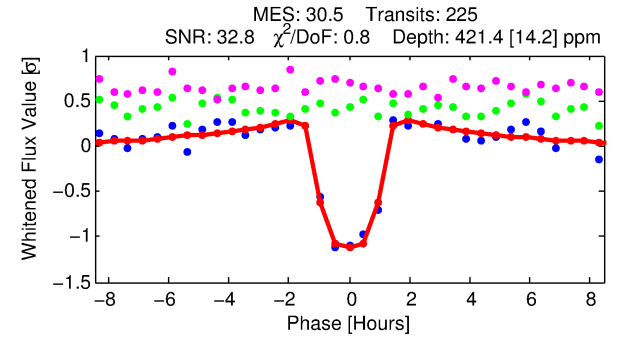
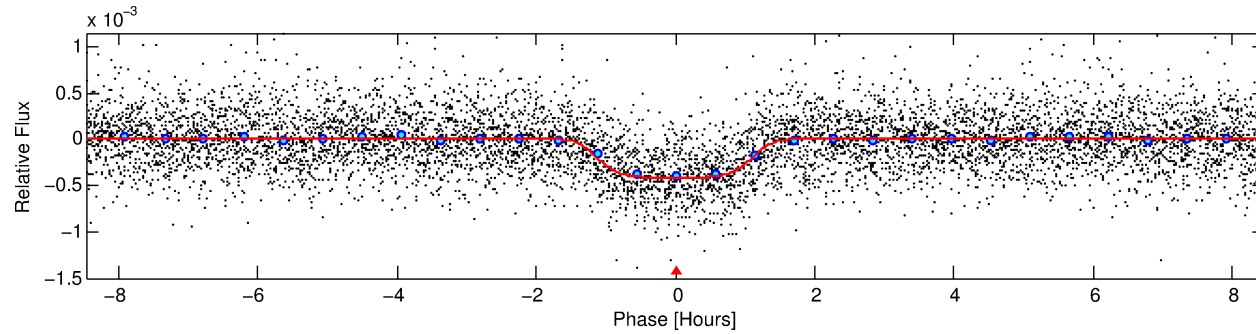
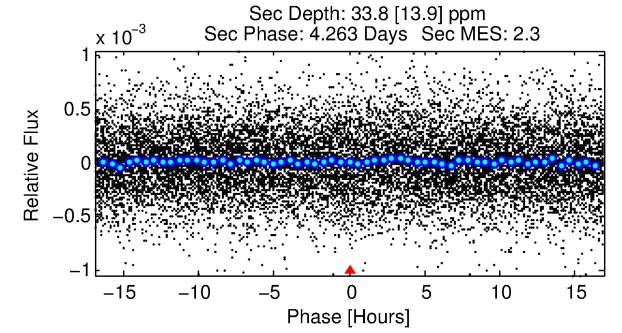
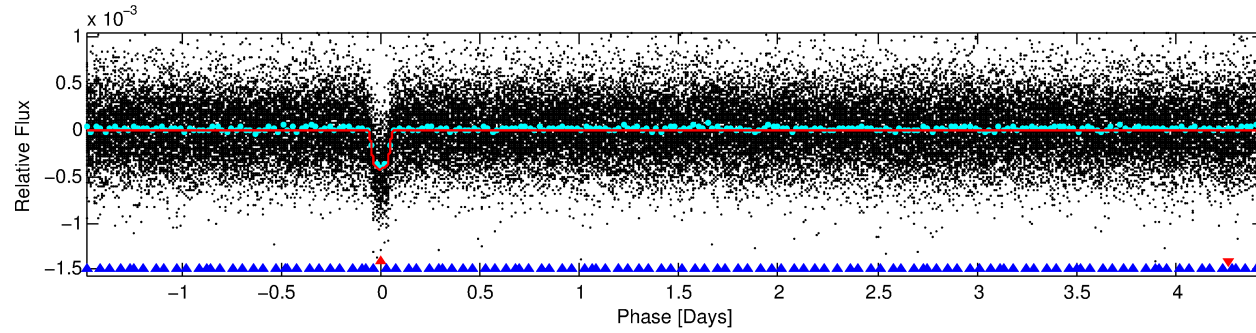
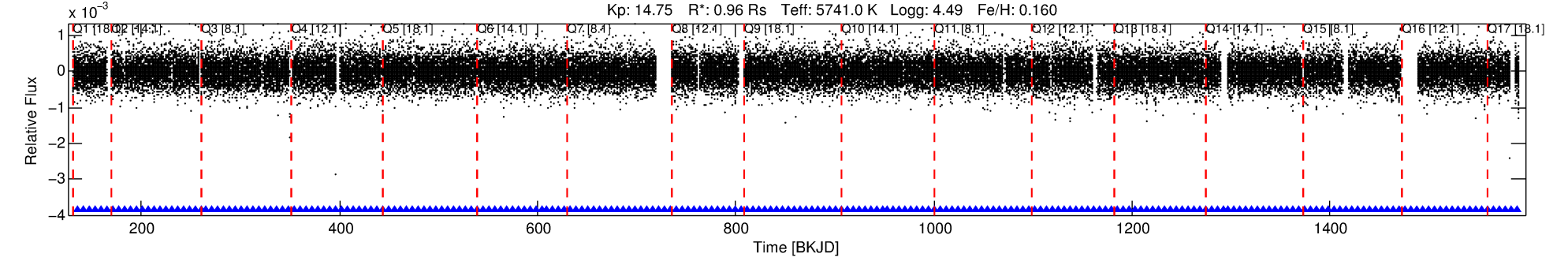
Ephemeris Match Information For 008564674-01

No Significant Match Found

DV One-Page Summary

KIC: 8564674 Candidate: 1 of 2 Period: 5.930 d
KOI: K02022.01 Name: Kepler-349b Corr: 0.932

Kp: 14.75 R*: 0.96 Rs Teff: 5741.0 K Logg: 4.49 Fe/H: 0.160



DV Fit Results:

Period = 5.92977 [0.00001] d
Epoch = 135.4910 [0.0015] BKJD
Rp/R* = 0.0239 [0.0010]
a/R* = 6.36 [1.06]
b = 0.95 [0.02]
Seff = 211.40 [47.98]
Teff = 972 [55] K
Rp = 2.49 [0.39] Re
a = 0.0649 [0.0091] AU
Ag = 12.63 [5.99] [1.94σ]
Teffp = 2834 [300] K [6.10σ]

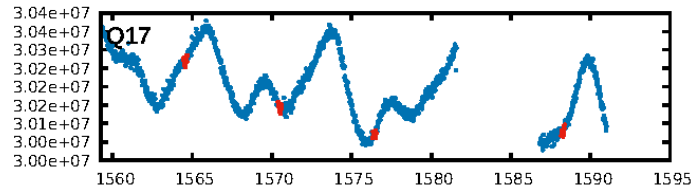
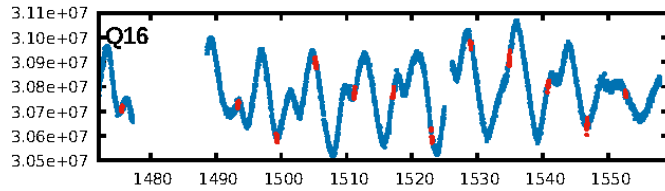
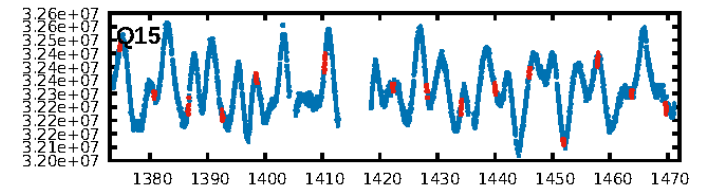
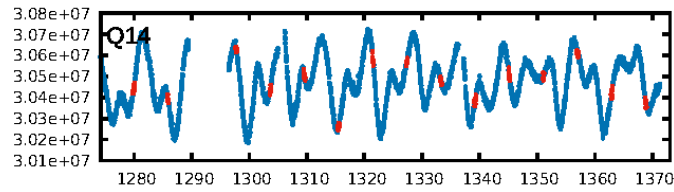
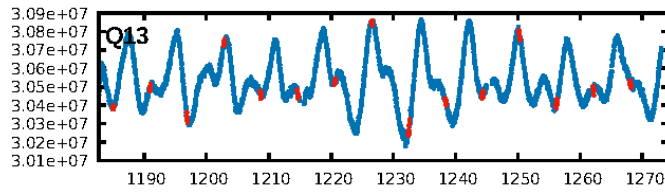
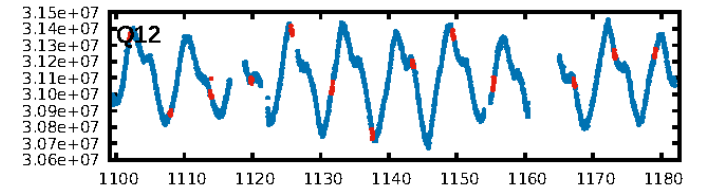
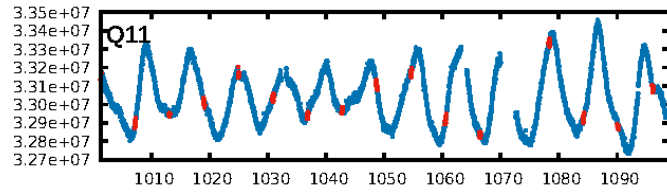
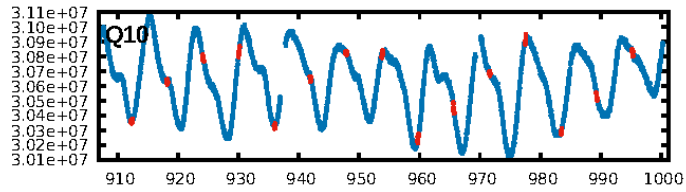
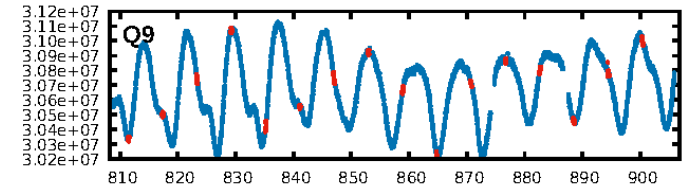
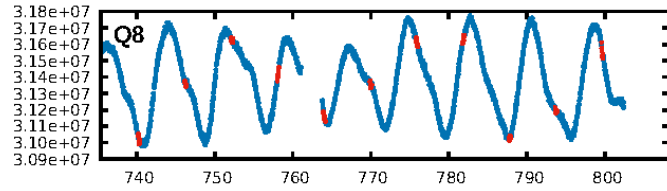
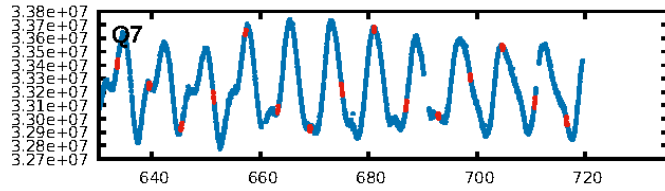
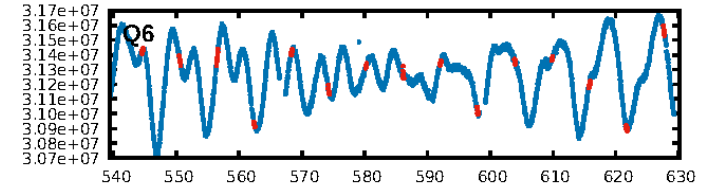
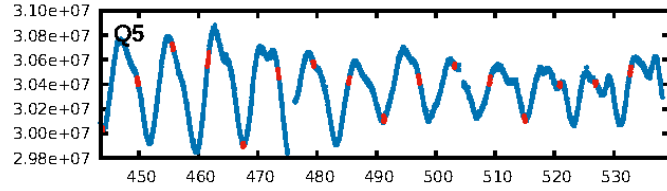
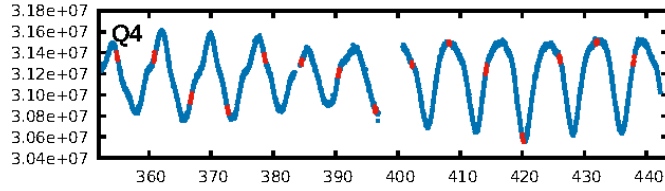
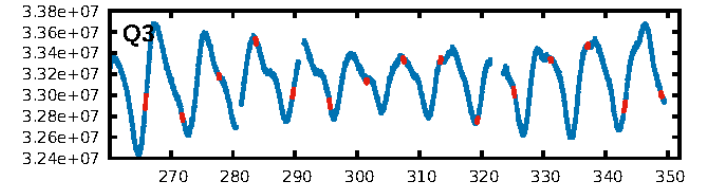
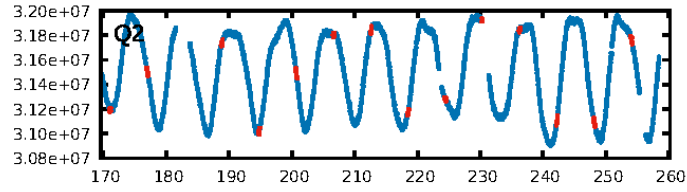
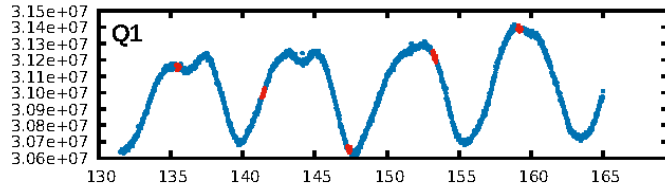
DV Diagnostic Results:

ShortPeriod-sig: N/A
LongPeriod-sig: 100.0% [31.74σ]
ModelChiSquare2-sig: N/A
ModelChiSquareGof-sig: N/A
Bootstrap-pfa: 4.14e-190
RollingBand-fgt: 1.00 [216/216]
GhostDiagnostic-chr: 3.398
Centroid-sig: 22.8%
Centroid-so: 0.396 arcsec [1.23σ]
OotOffset-rm: 0.224 arcsec [1.23σ]
KicOffset-rm: 0.310 arcsec [1.64σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

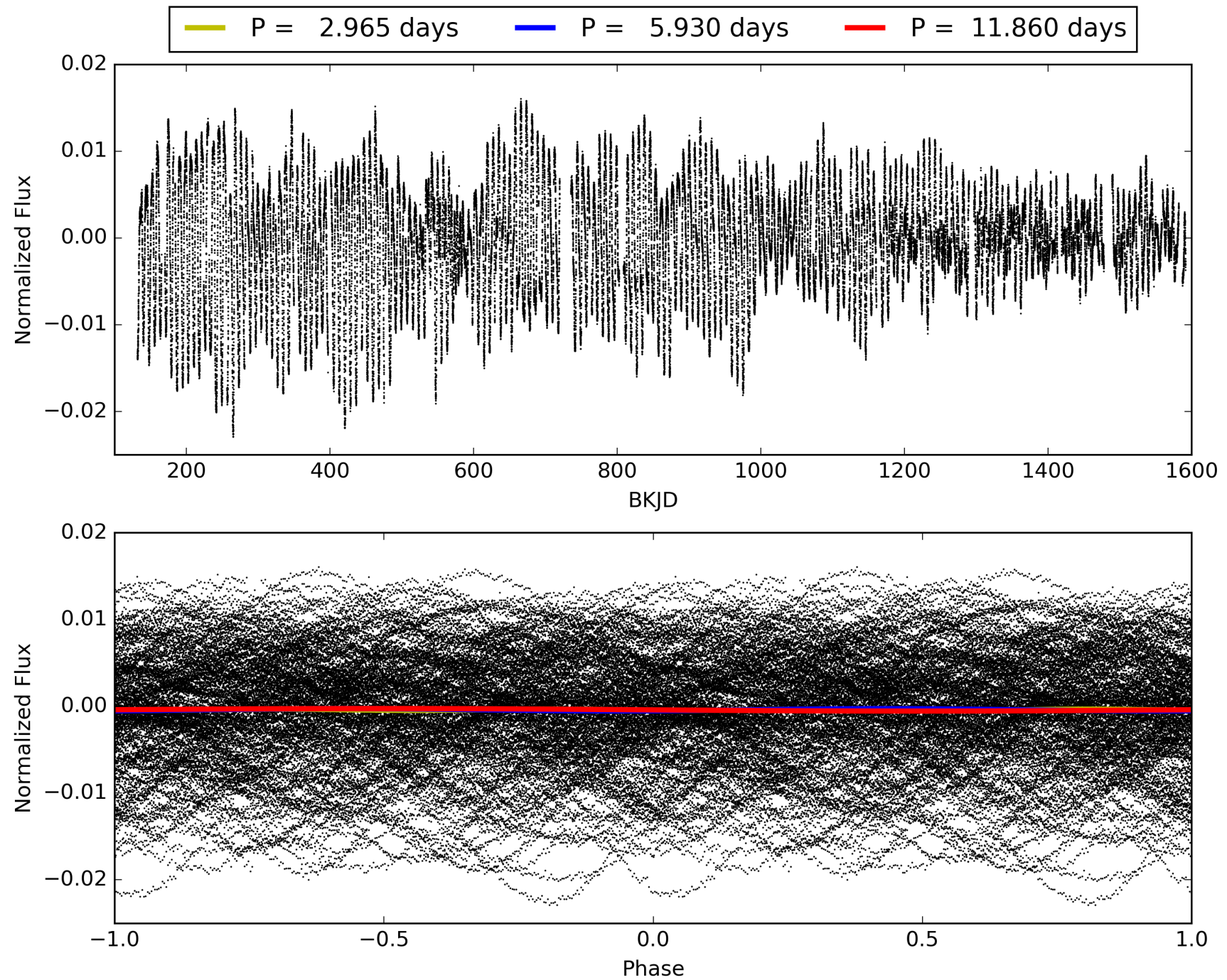
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:55:01 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008564674-01, PDC Light Curves

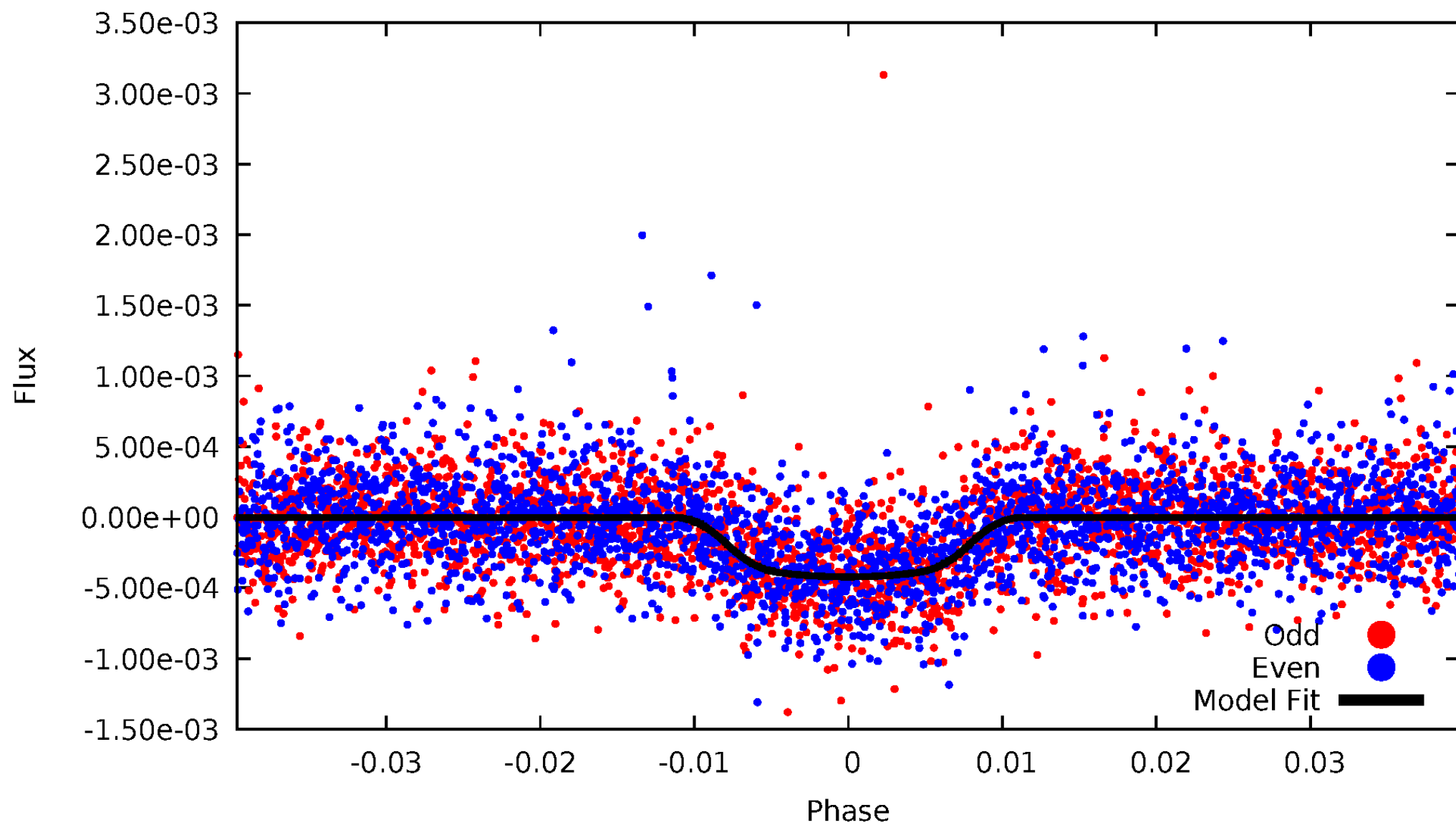


TCE 008564674-01



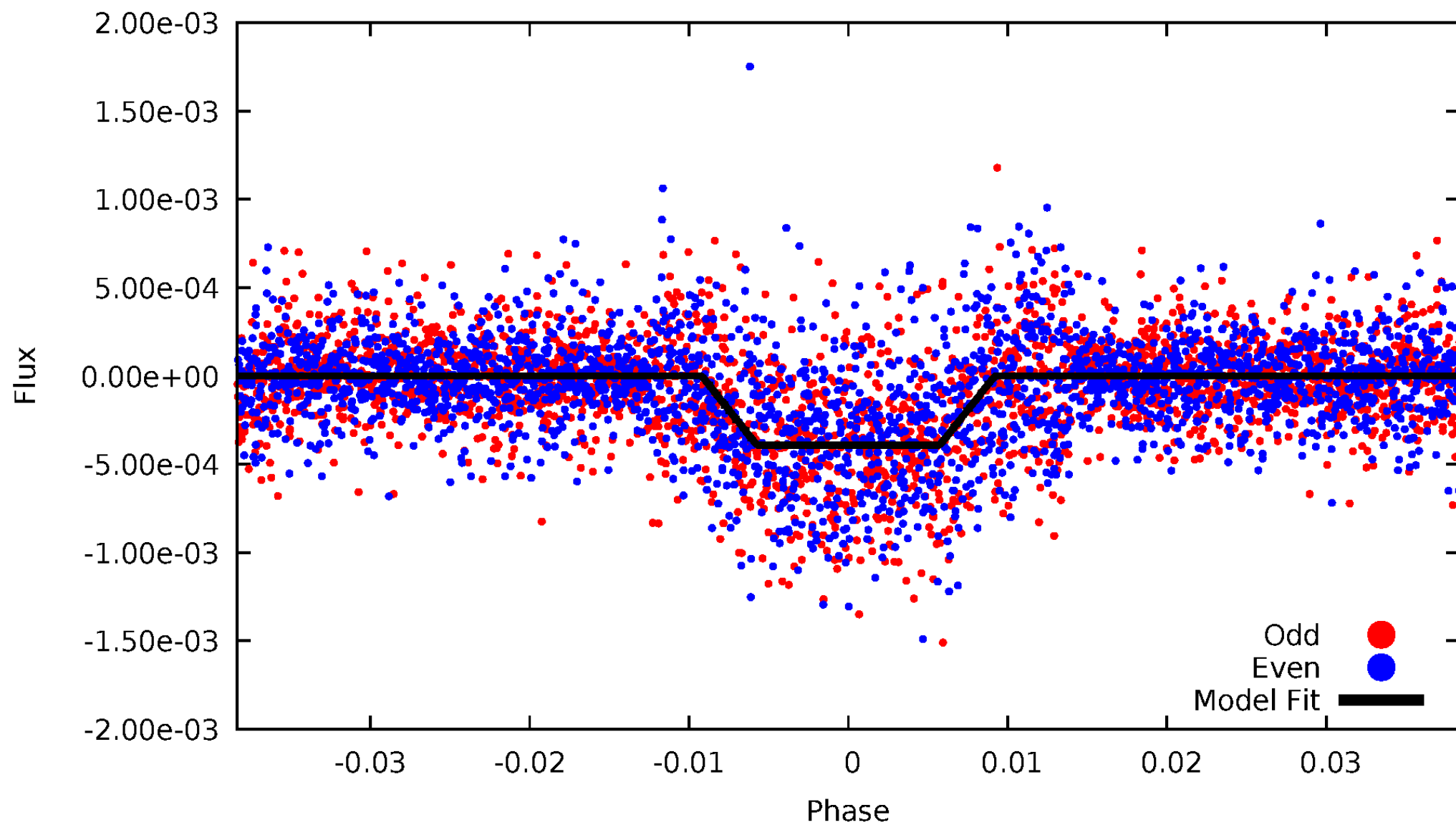
DV Odd/Even

TCE 008564674-01



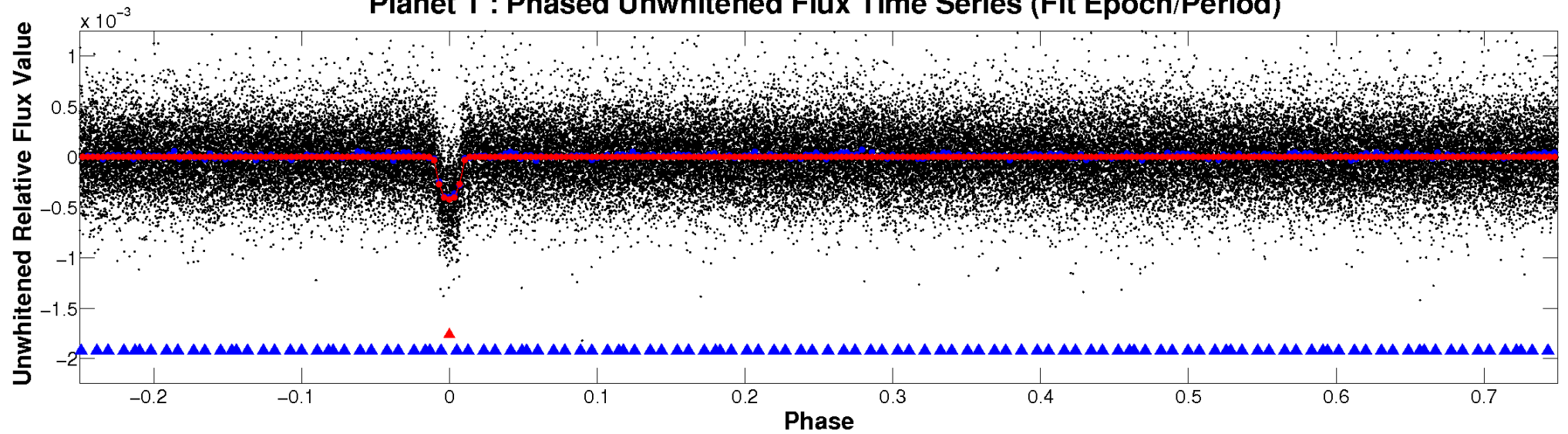
ALT Odd/Even

TCE 008564674-01

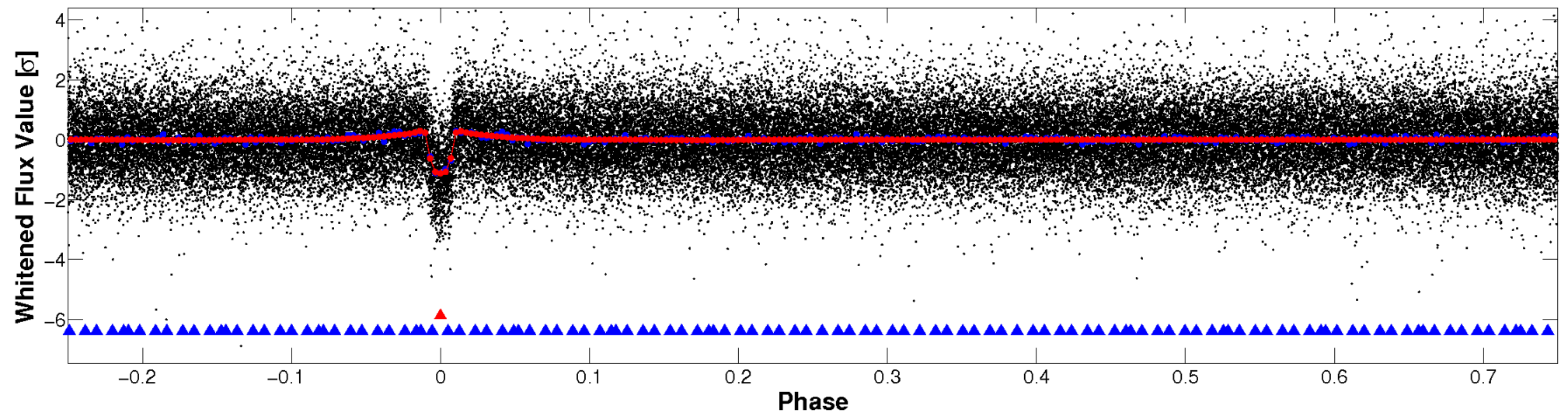


Non-Whitened Vs. Whitened Light Curve

Planet 1 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

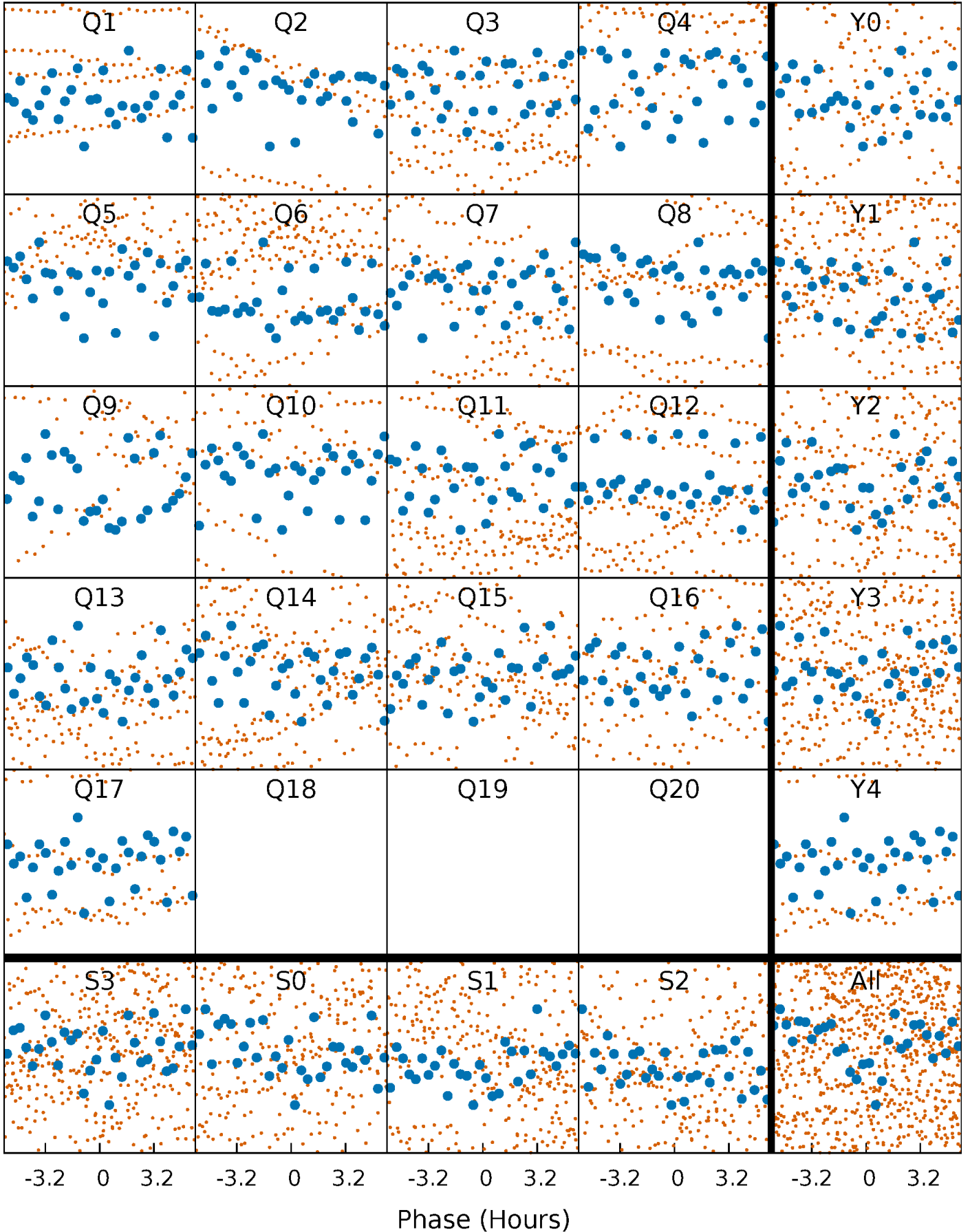


Planet 1 : Phased Whitened Flux Time Series (Fit Epoch/Period)



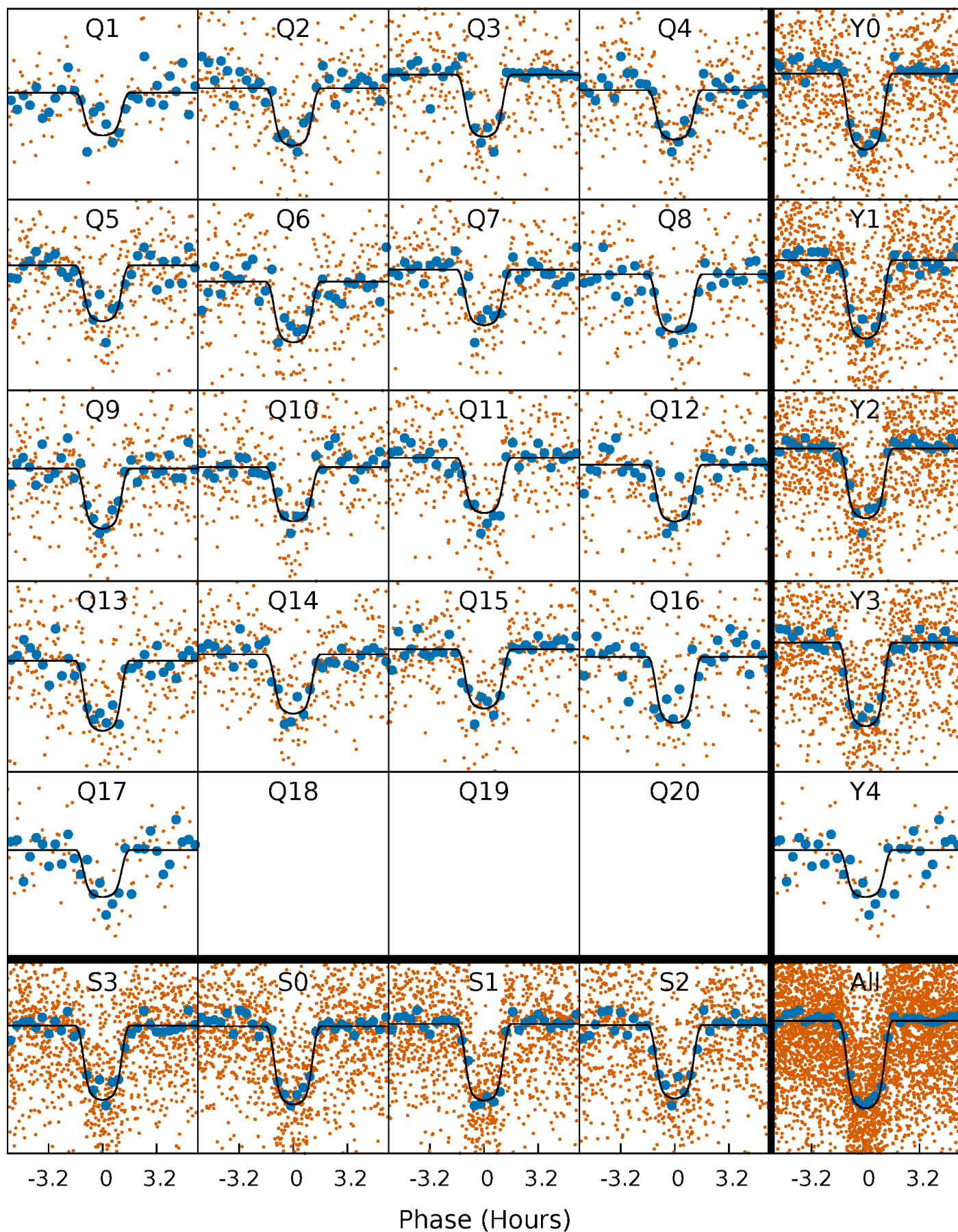
PDC Quarter-Phased Transit Curves

TCE 008564674-01 P= 5.929767 Days $T_0=135.491007$ (BKJD)



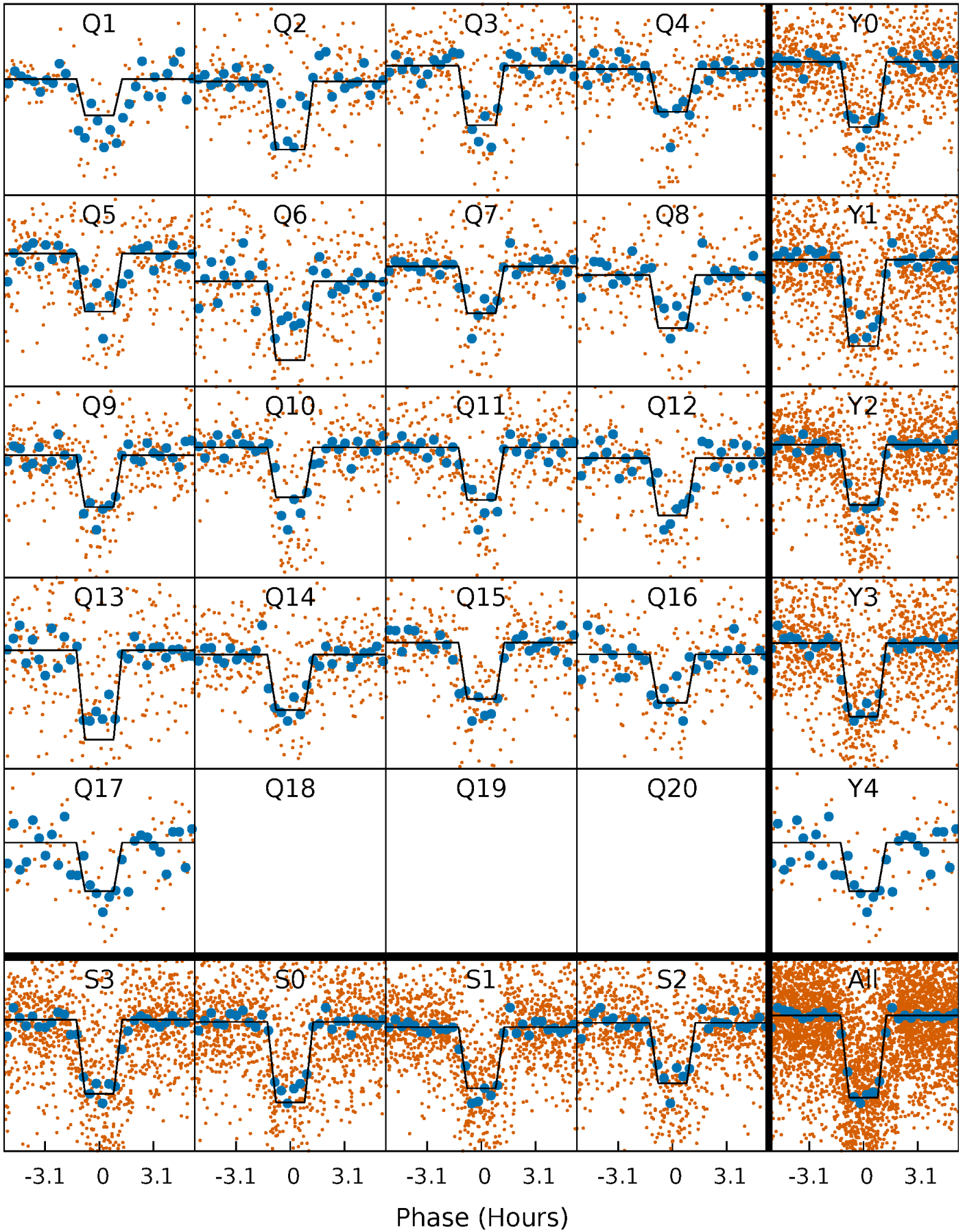
DV Quarter-Phased Transit Curves

TCE 008564674-01 P= 5.929767 Days $T_0=135.491007$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

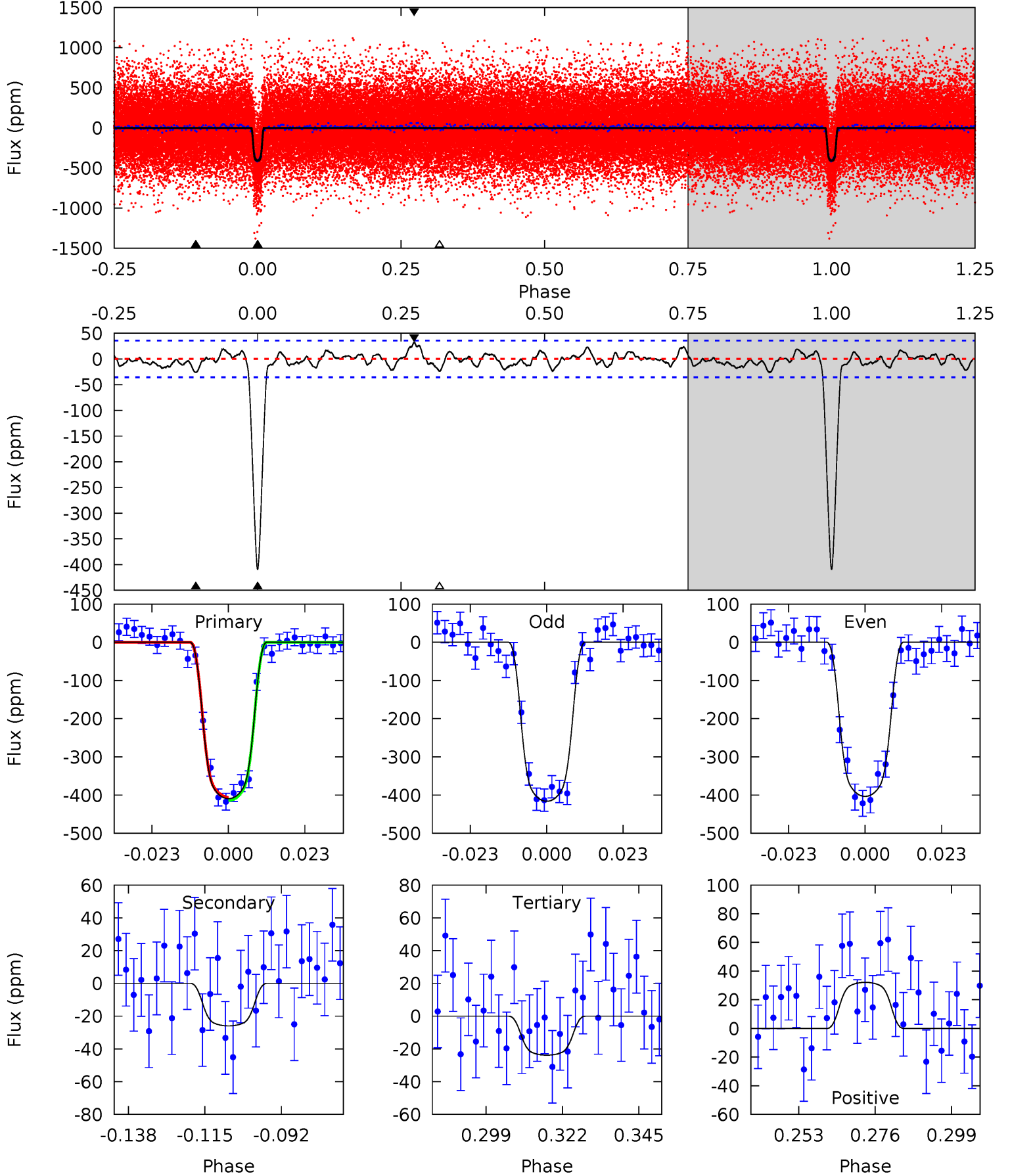
TCE 008564674-01 P= 5.929768 Days $T_0=135.492242$ (BKJD)



DV Model-Shift Uniqueness Test

008564674-01, P = 5.929767 Days, E = 129.561240 Days

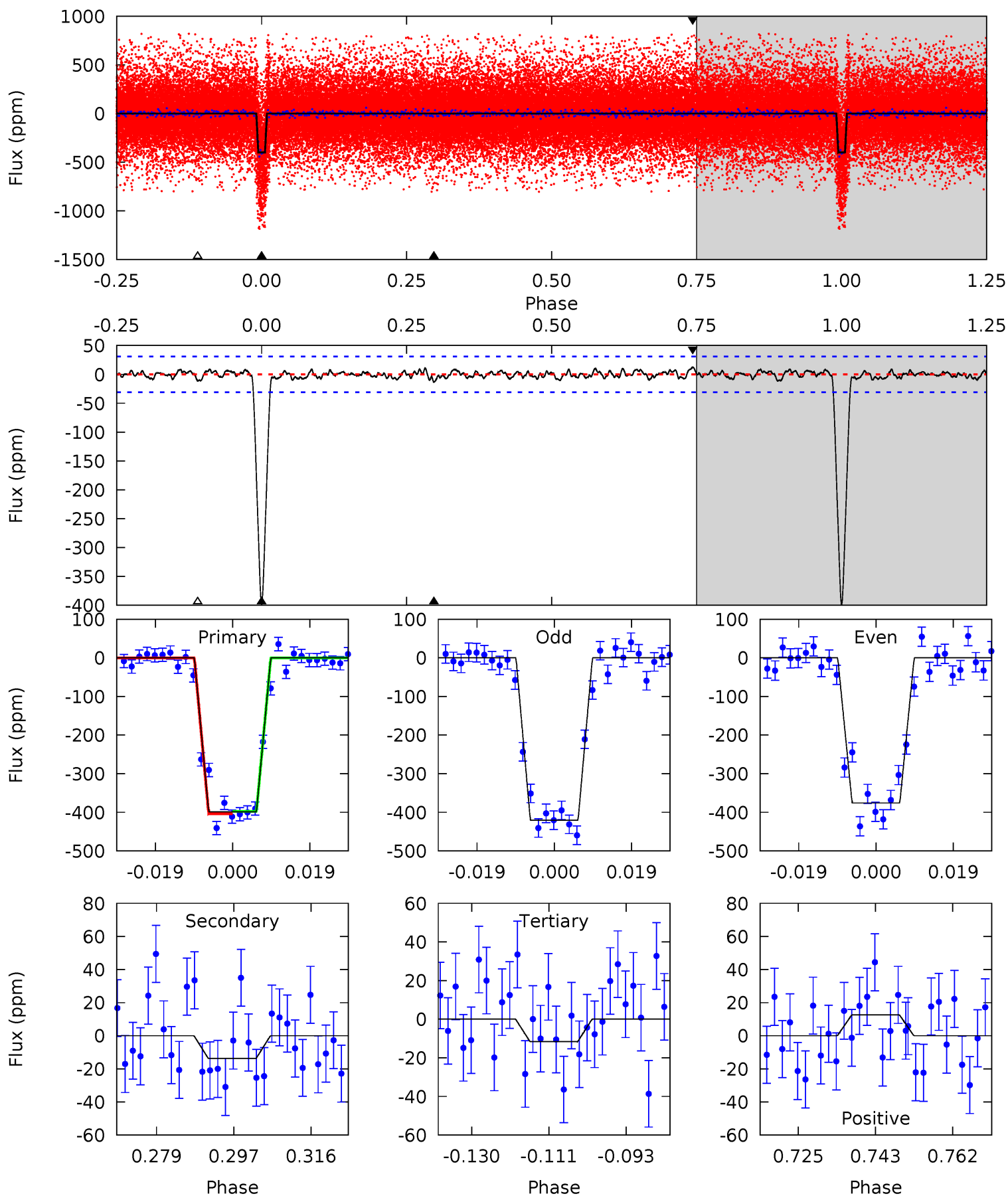
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
55.7	3.54	3.25	4.38	4.86	2.27	1.42	52.5	51.4	0.29	-0.84	0.88	0.98	0.07	0.52



Alt Model-Shift Uniqueness Test

008564674-01, P = 5.929768 Days, E = 129.562474 Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
63.2	2.18	1.84	1.99	4.91	2.35	0.73	61.4	61.2	0.34	0.19	3.56	0.99	0.03	0.51



Stellar Parameters For KIC 008564674

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	M (M_{\odot})	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5741^{+78}_{-78}	$4.492^{+0.030}_{-0.128}$	$0.160^{+0.150}_{-0.150}$	$0.956^{+0.143}_{-0.048}$	$1.035^{+0.050}_{-0.074}$	$1.667^{+0.195}_{-0.566}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-5%	+5%/-7%	+12%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008564674-01 / KOI 2022.01

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-26 ± 7	$2.53^{+0.22}_{-0.16}$	1374^{+51}_{-34}	3220^{+136}_{-165}	$9.066^{+2.989}_{-2.744}$
Alt.	-14 ± 6	$2.11^{+0.20}_{-0.15}$	1375^{+49}_{-36}	3092^{+201}_{-250}	$7.043^{+3.708}_{-3.155}$

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

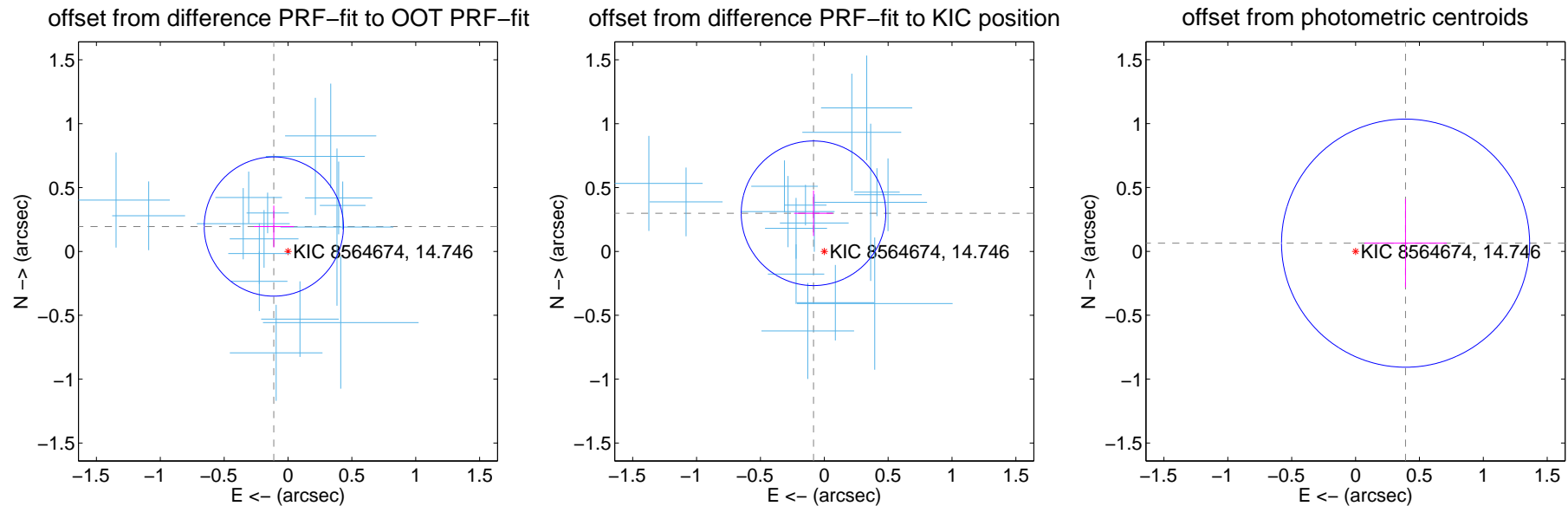
DV Centroid Data

Supplemental centroid analysis for 008564674-01. Kepler magnitude: 14.75. Transit SNR 32.77

There are 16 quarters with good PRF difference image offsets

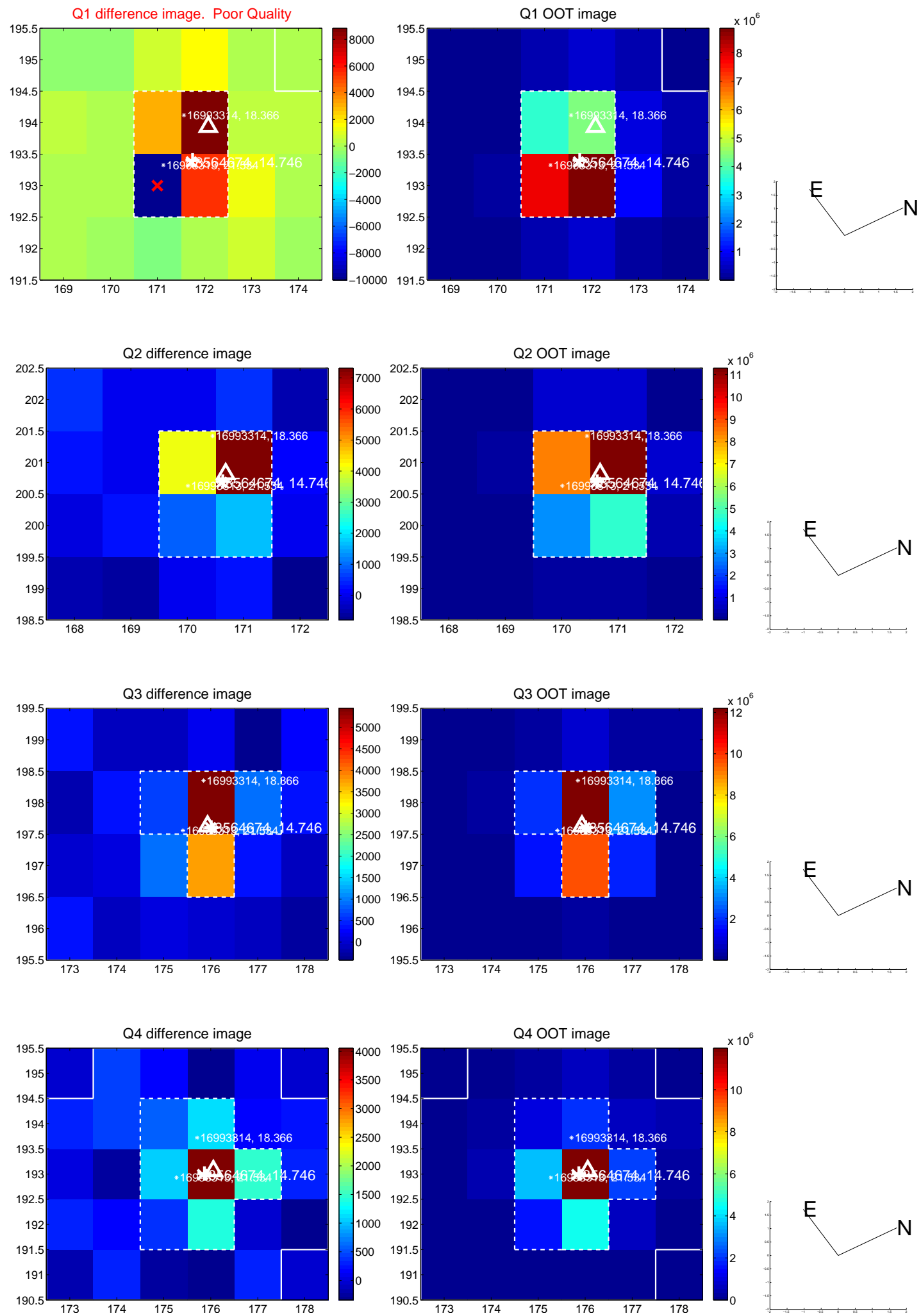
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.224 ± 0.182	1.23	0.111 ± 0.157	0.195 ± 0.163
PRF-fit source offset from KIC position	0.310 ± 0.189	1.64	0.084 ± 0.152	0.299 ± 0.177
photometric centroid source offset	0.40 ± 0.32	1.23	-0.39 ± 0.32	0.06 ± 0.35

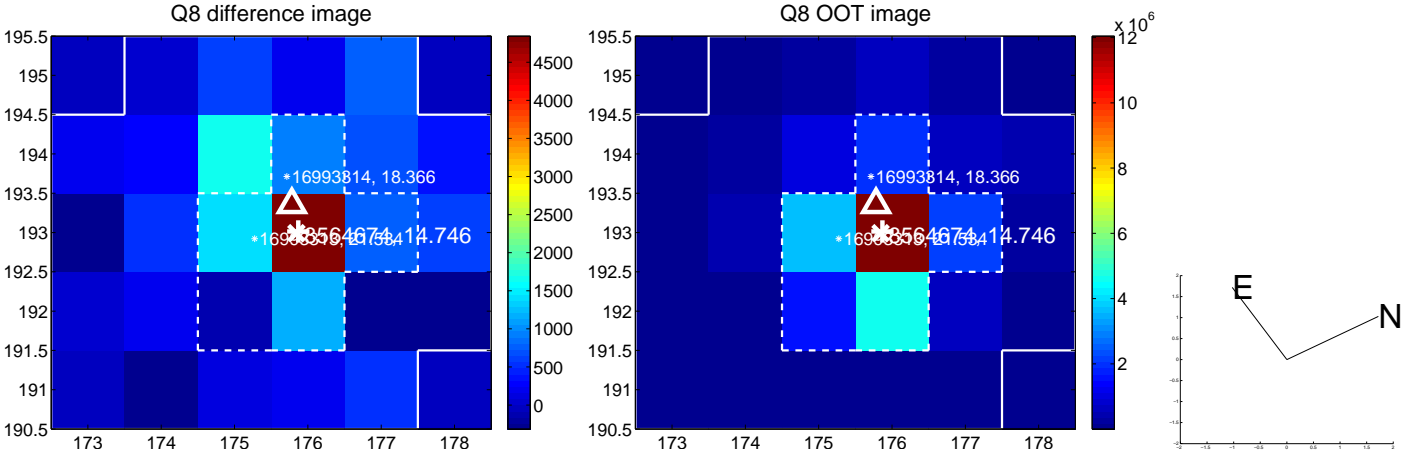
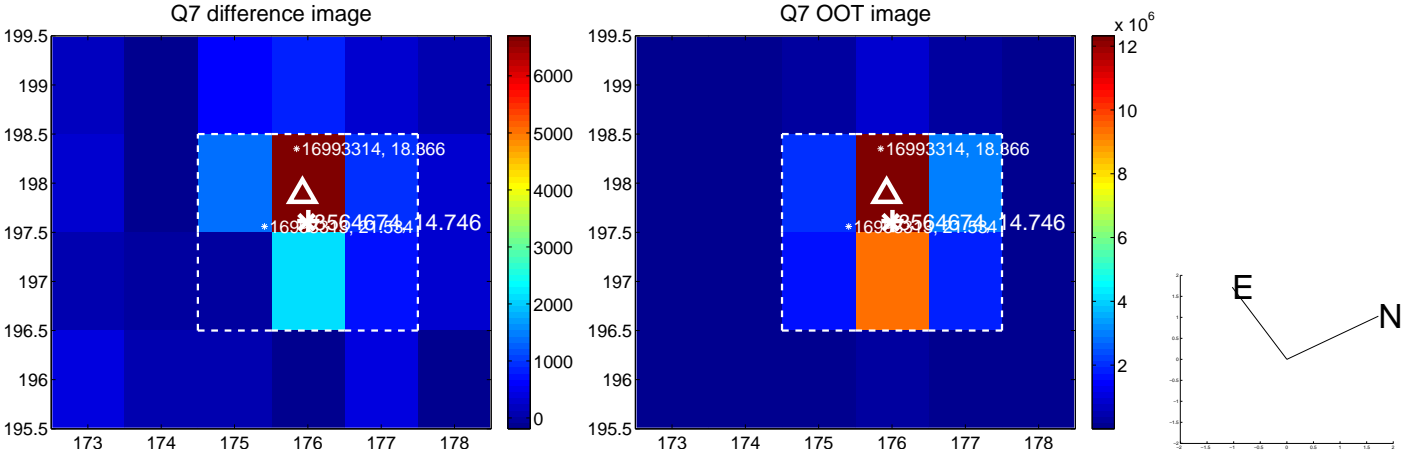
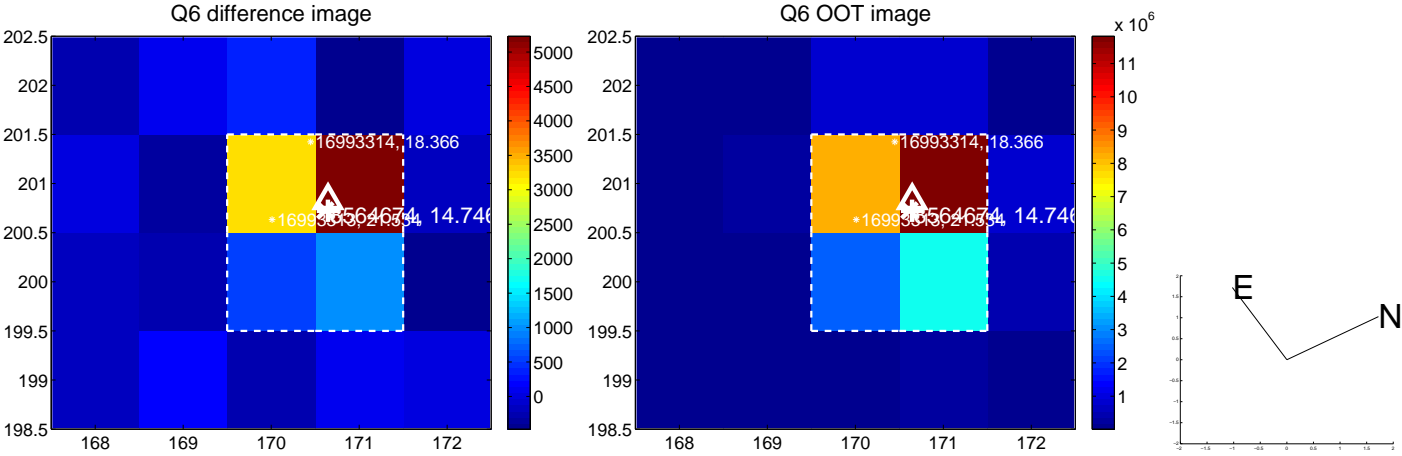
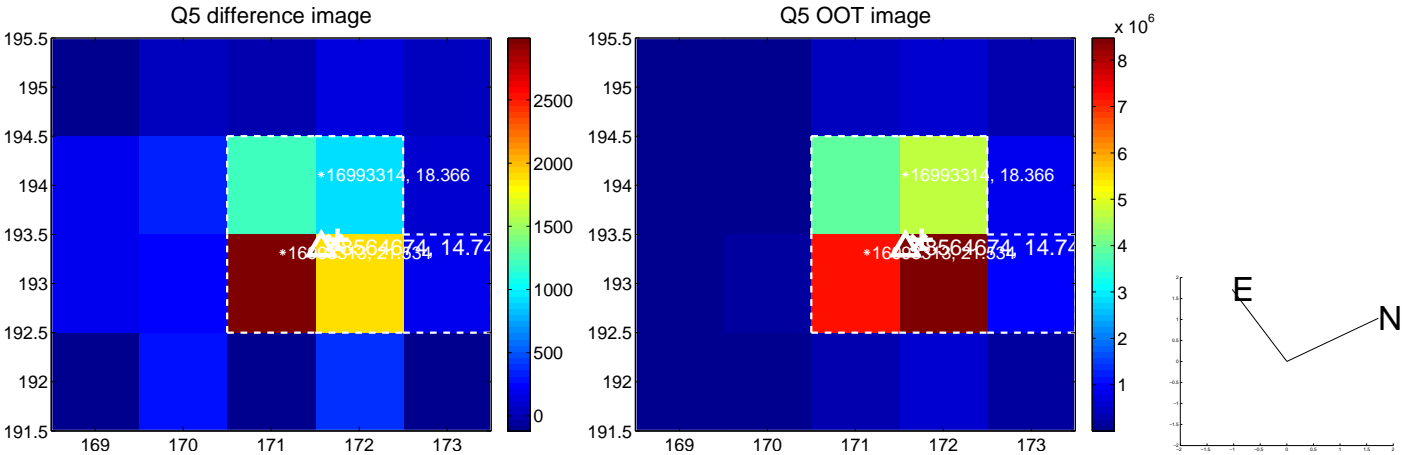


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses:** good quarterly centroid offsets; **Vermillion crosses:** bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

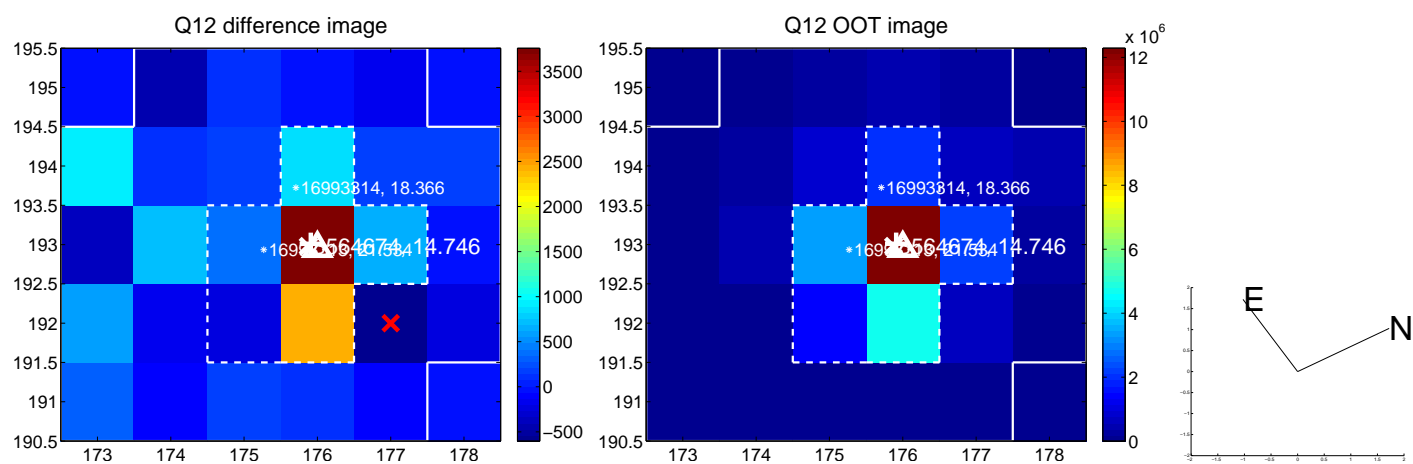
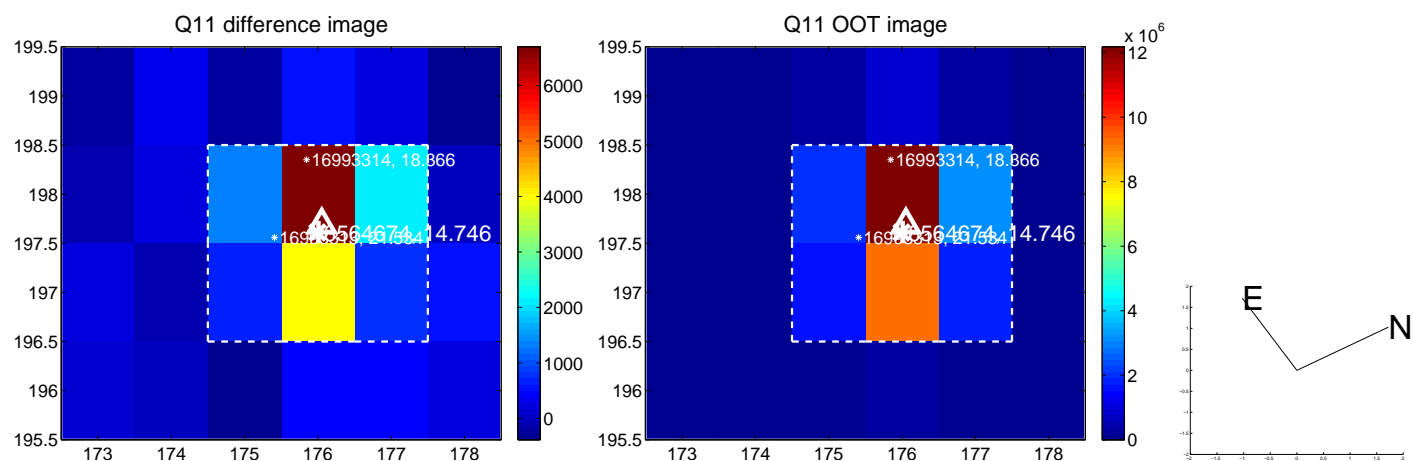
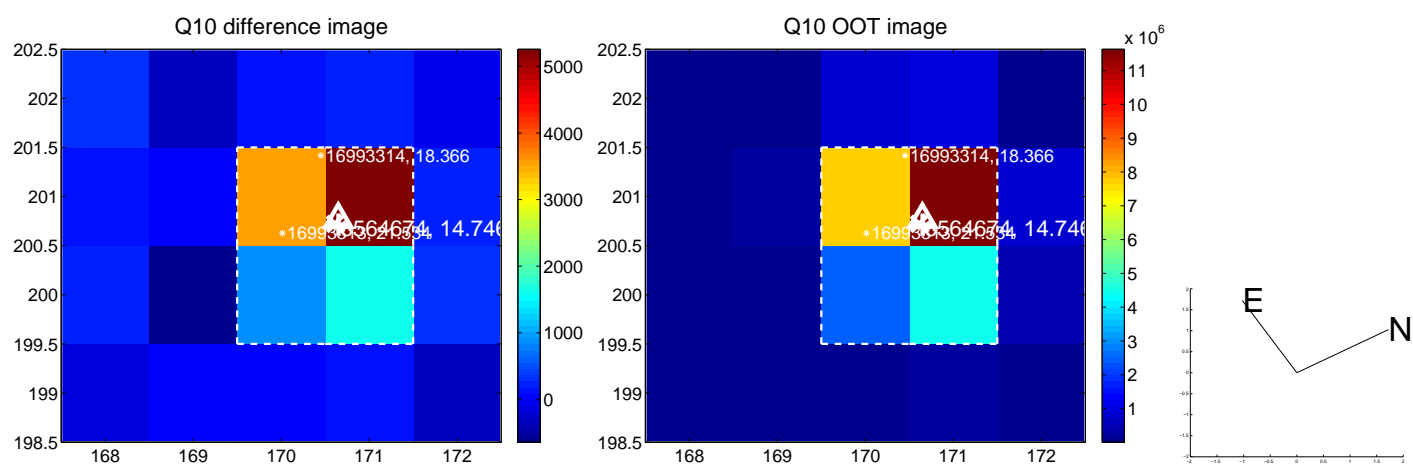
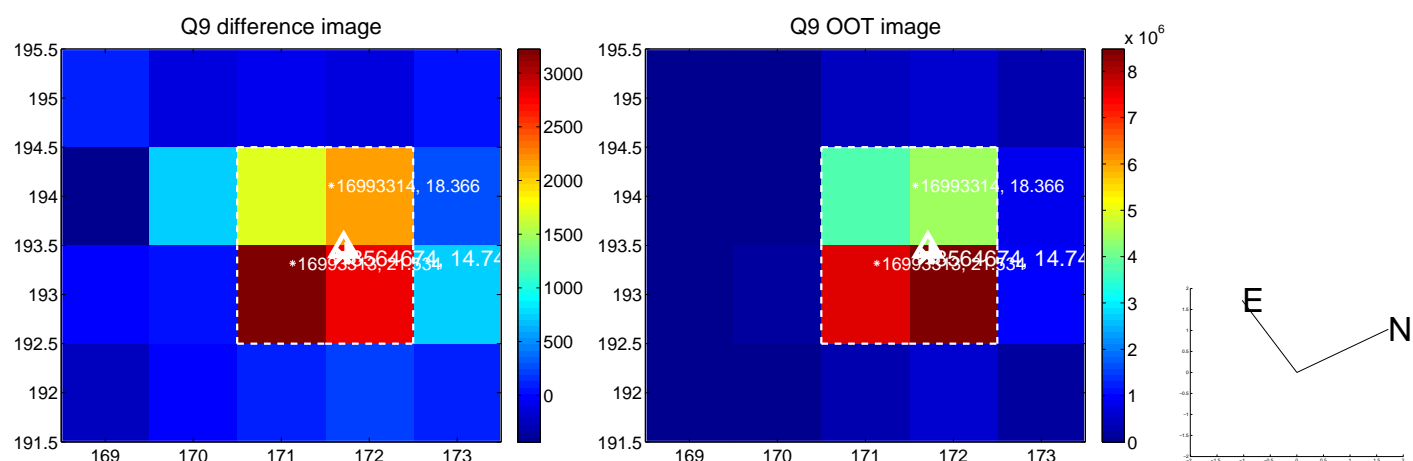
white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



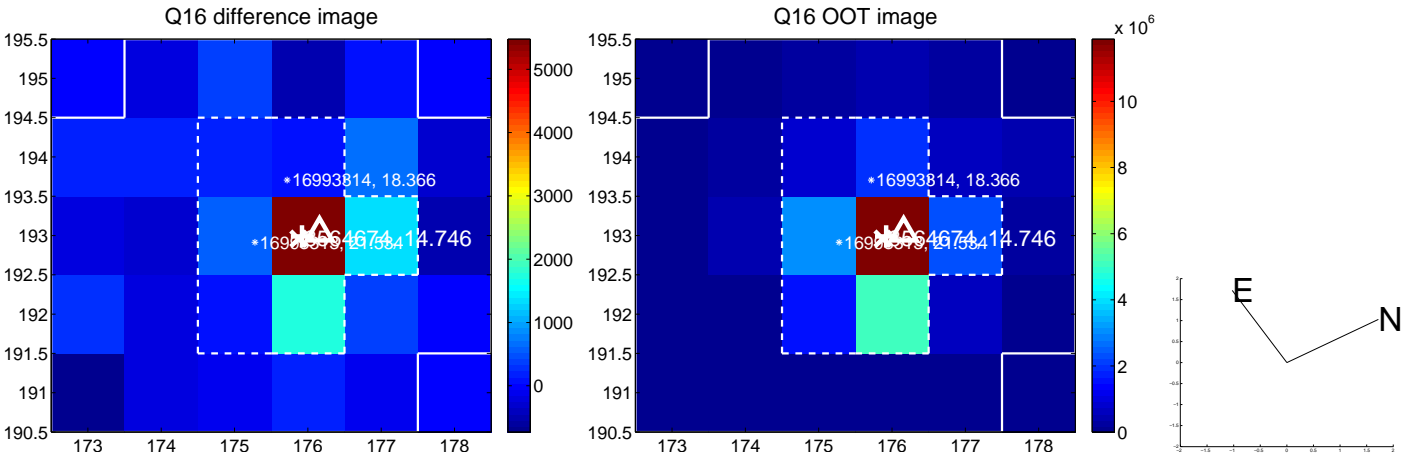
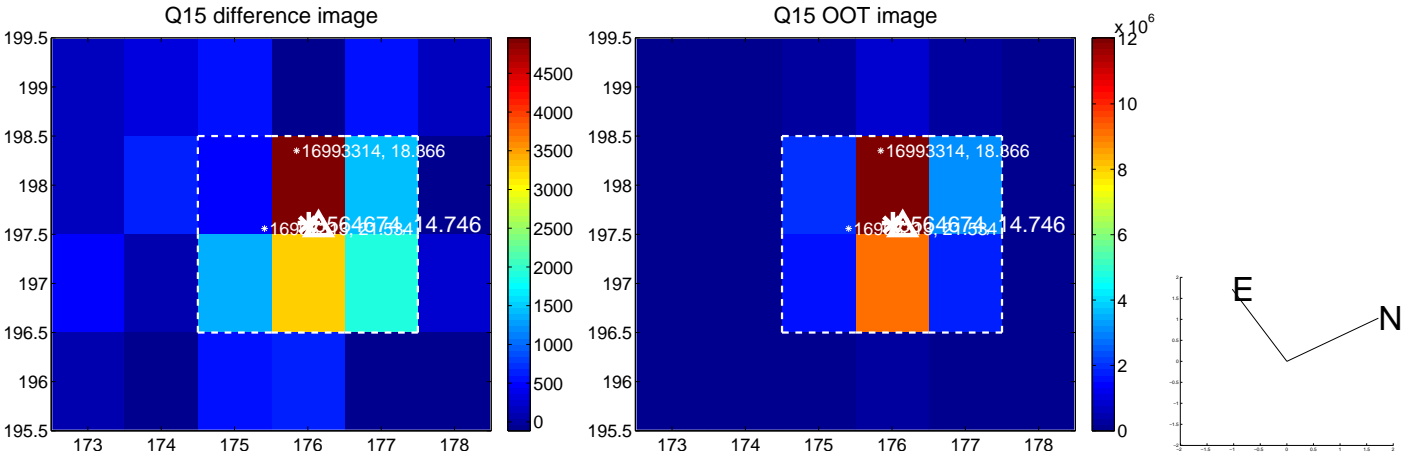
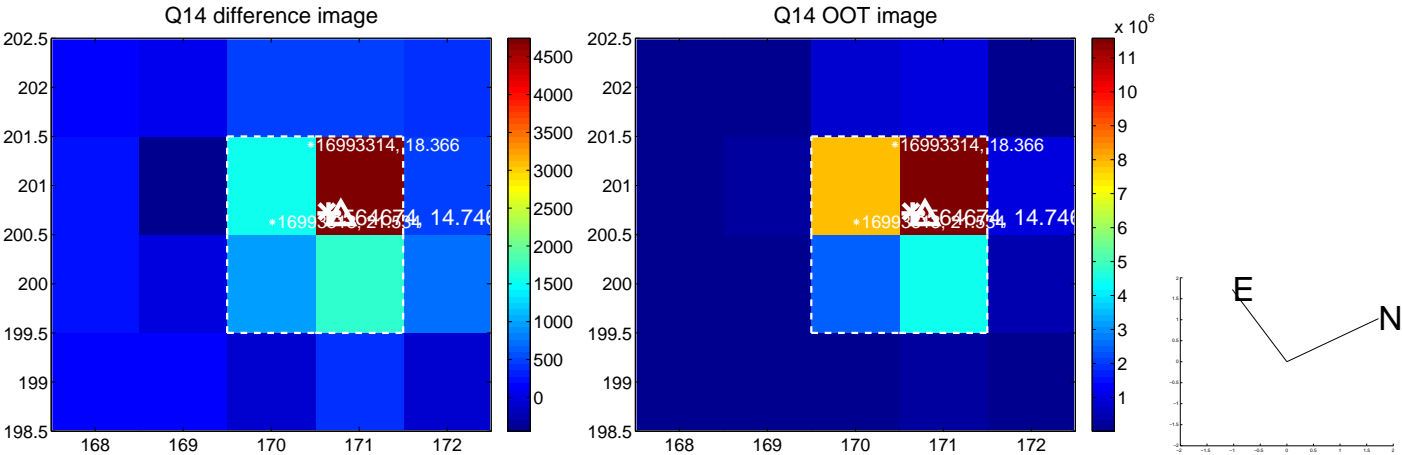
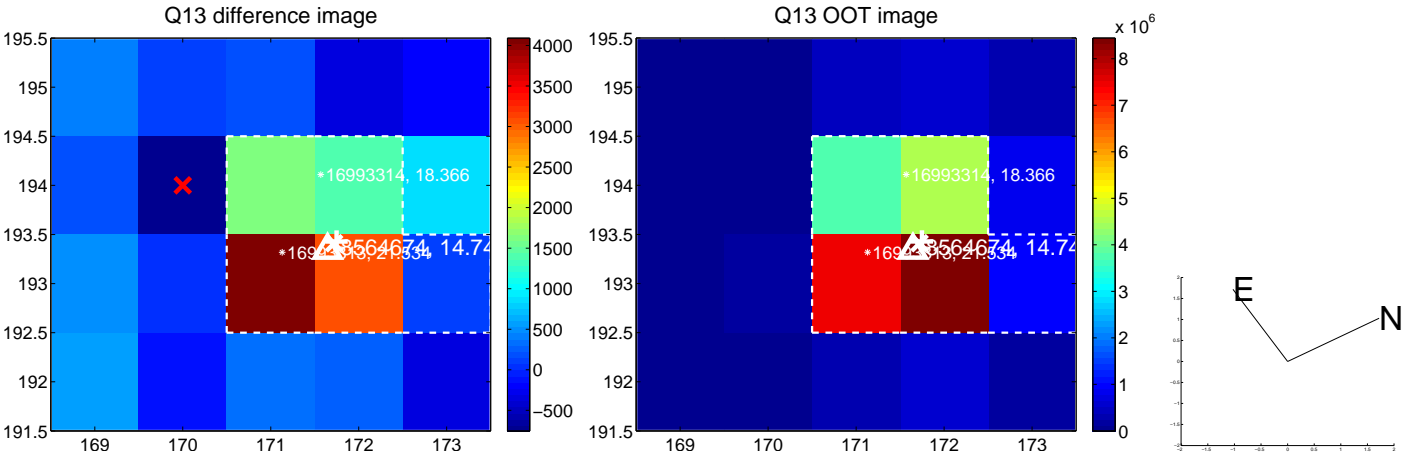
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



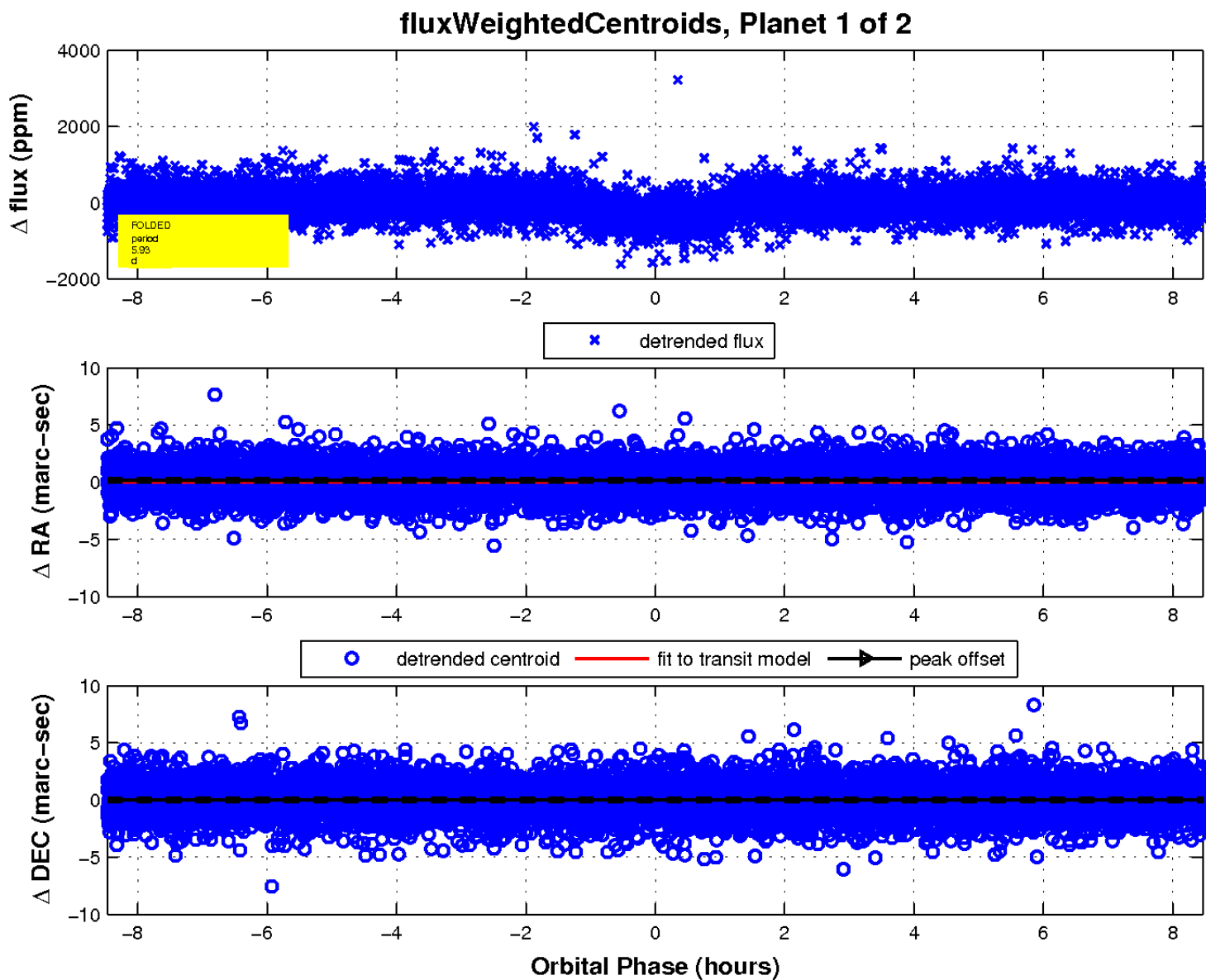
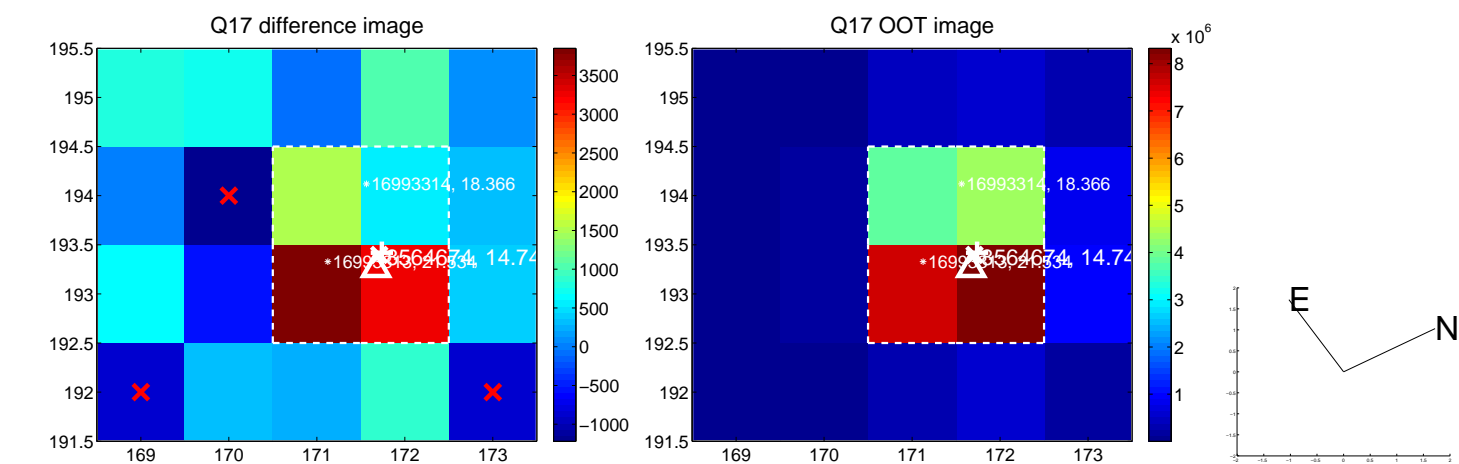
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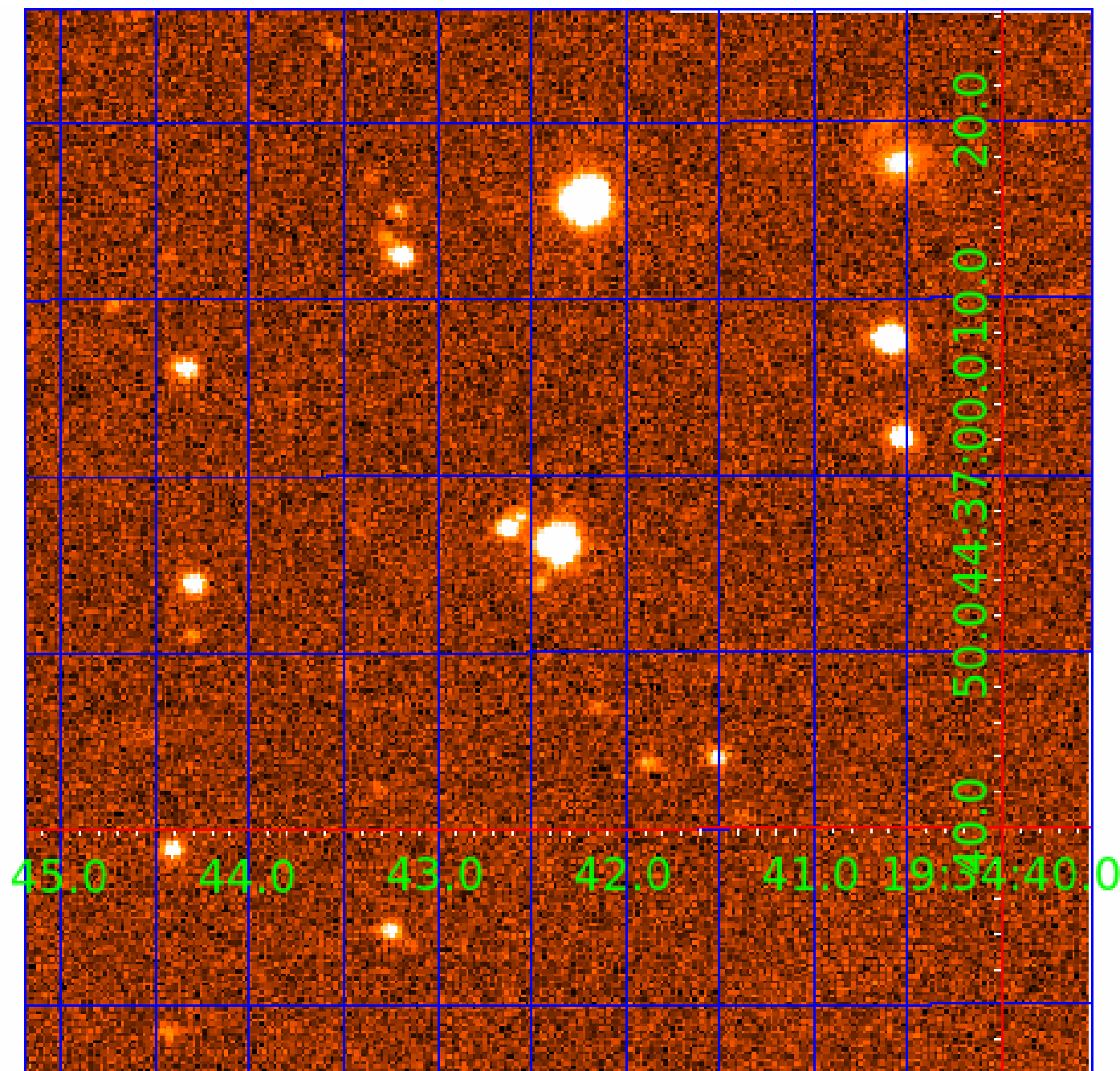


white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination



KIC 008564674

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	R_{\star} (R_{\odot})	T_{\star} (K)	R_p (R_{\oplus})	S_p (S_{\oplus})
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Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
008564674-01	OBS	PC	1.00	0	0	0	0	NO_COMMENT
008564674-02	OBS	PC	1.00	0	0	0	0	NO_COMMENT

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.

N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.

See http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col for comment definitions.

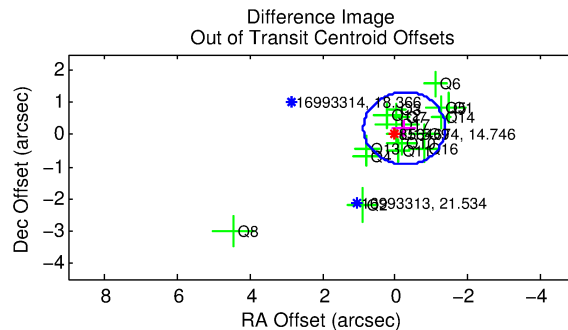
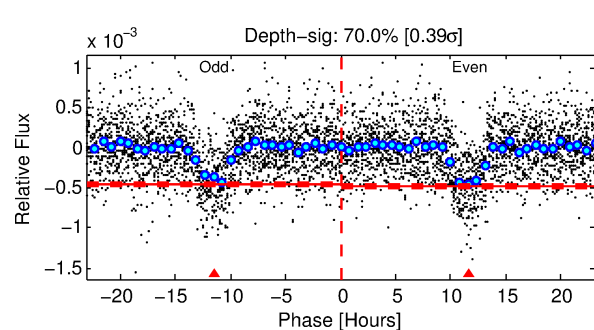
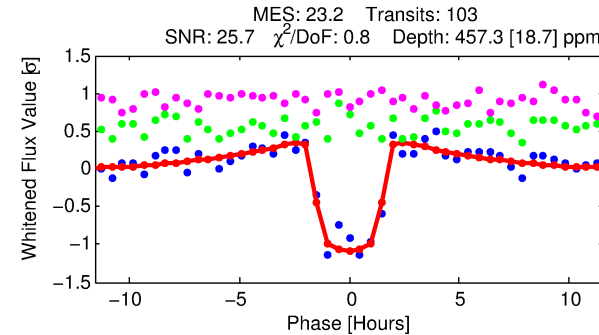
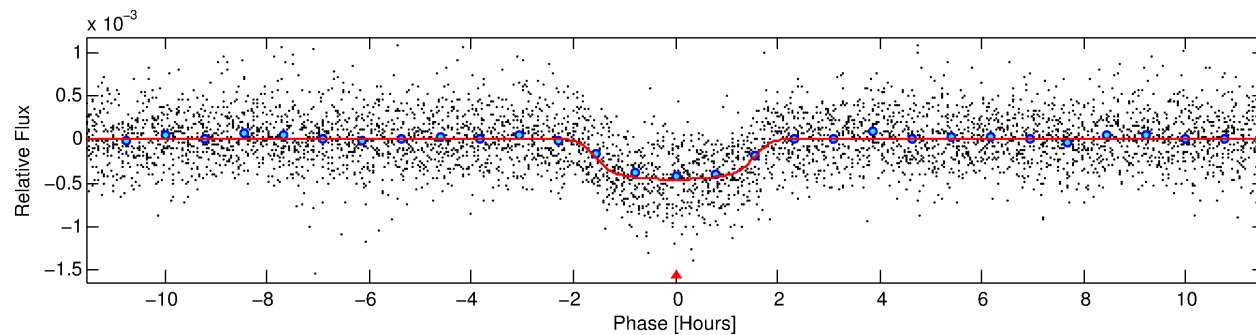
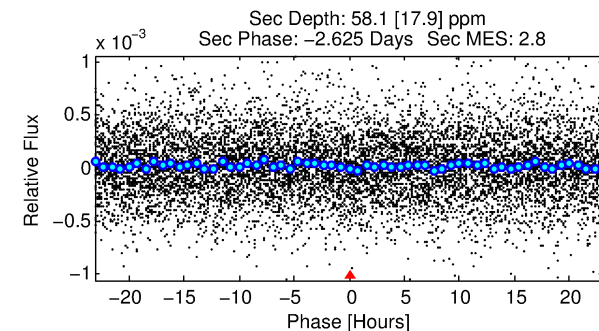
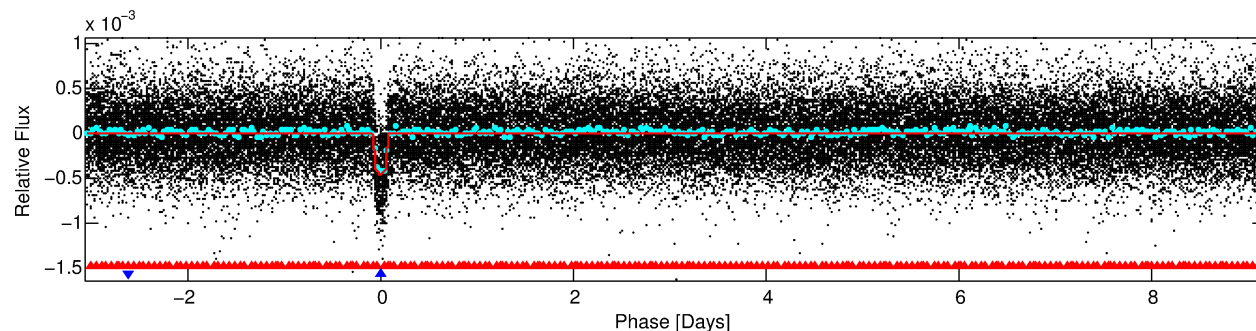
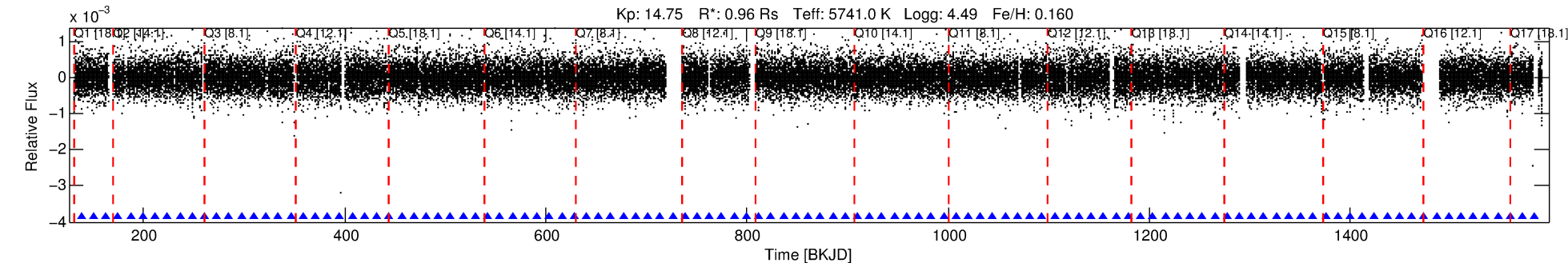
Ephemeris Match Information For 008564674-02

No Significant Match Found

DV One-Page Summary

KIC: 8564674 Candidate: 2 of 2 Period: 12.248 d
KOI: K02022.02 Name: Kepler-349c Corr: 0.936

Kp: 14.75 R*: 0.96 Rs Teff: 5741.0 K Logg: 4.49 Fe/H: 0.160



DV Fit Results:

Period = 12.24764 [0.00004] d
Epoch = 138.2195 [0.0026] BKJD
Rp/R* = 0.0246 [0.0010]
a/R* = 9.98 [1.57]
b = 0.94 [0.02]
Seff = 80.37 [18.24]
Teq = 763 [43] K
Rp = 2.56 [0.40] Re
a = 0.1052 [0.0147] AU
Ag = 53.82 [20.89] [2.53σ]
Teffp = 3197 [259] K [9.27σ]

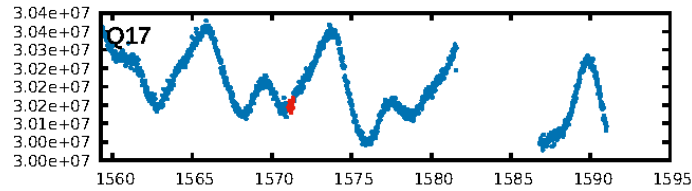
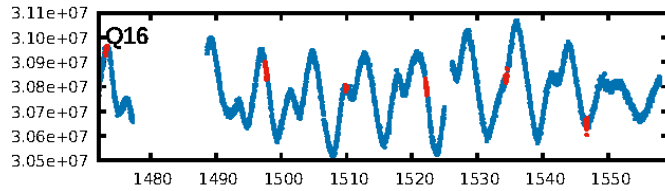
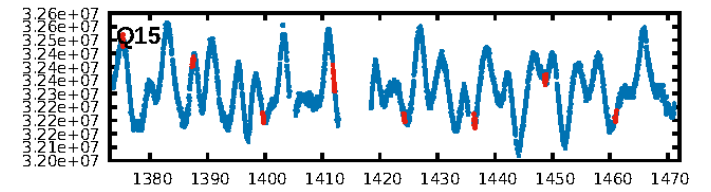
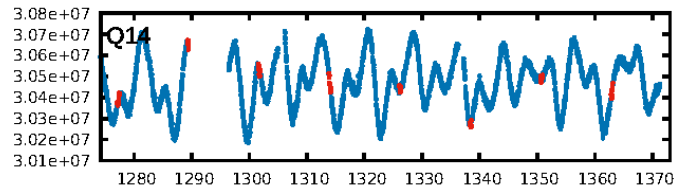
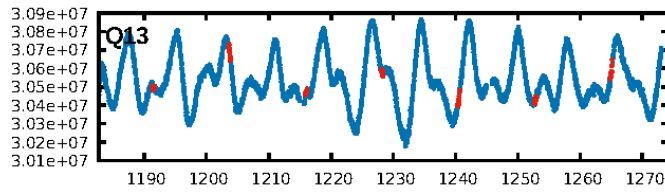
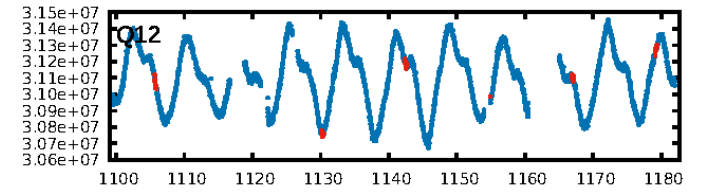
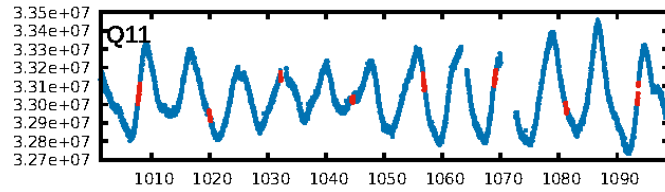
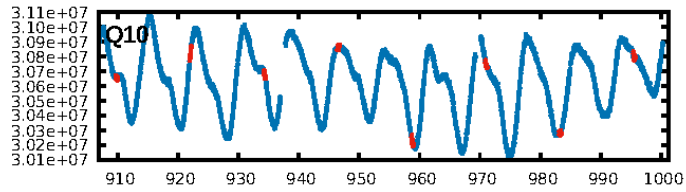
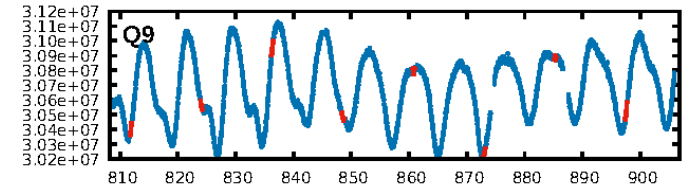
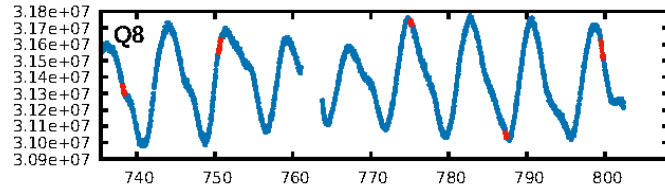
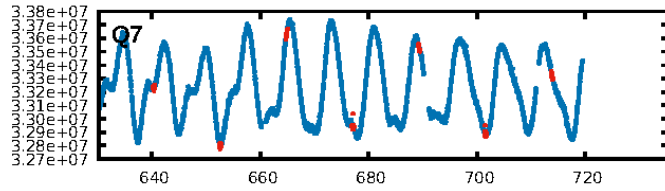
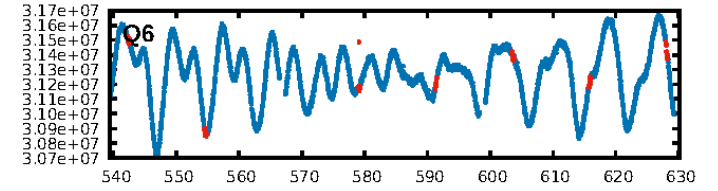
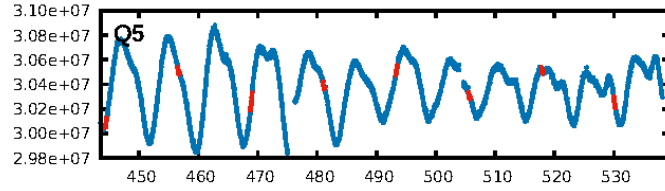
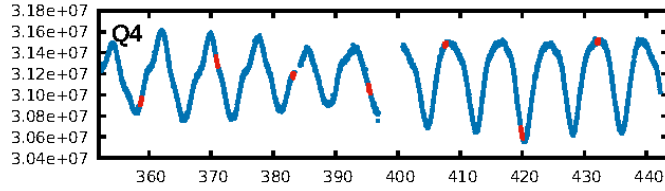
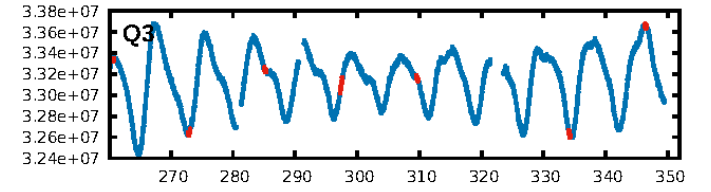
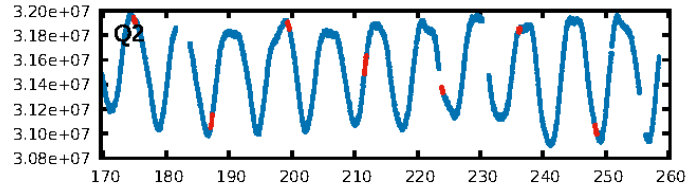
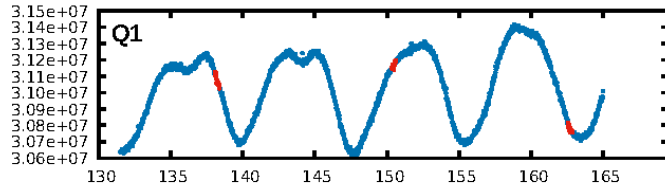
DV Diagnostic Results:

ShortPeriod-sig: 100.0% [31.74σ]
LongPeriod-sig: N/A
ModelChiSquare2-sig: 81.1%
ModelChiSquareGof-sig: 100.0%
Bootstrap-pfa: 1.75e-110
RollingBand-fgt: 1.00 [99/99]
GhostDiagnostic-chr: 2.007
Centroid-sig: 91.9%
Centroid-so: 0.124 arcsec [0.33σ]
OotOffset-rm: 0.321 arcsec [0.85σ]
KicOffset-rm: 0.412 arcsec [1.02σ]
OotOffset-st: 4/4/4/5 [17]
KicOffset-st: 4/4/4/5 [17]
DiffImageQuality-fgm: 0.94 [16/17]
DiffImageOverlap-fno: 1.00 [17/17]

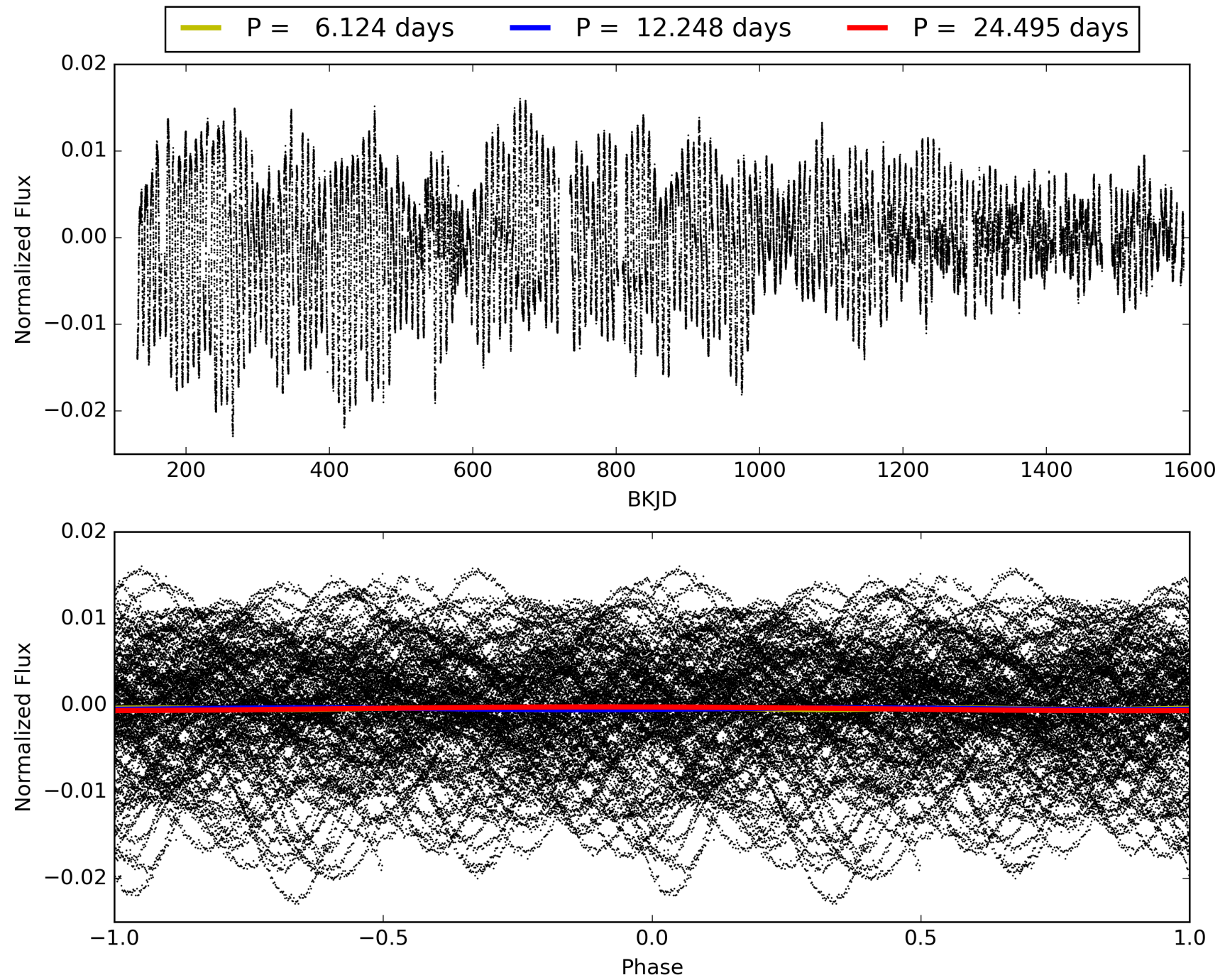
Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 -- Date Generated: 31-Jan-2016 21:55:08 Z

This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 008564674-02, PDC Light Curves

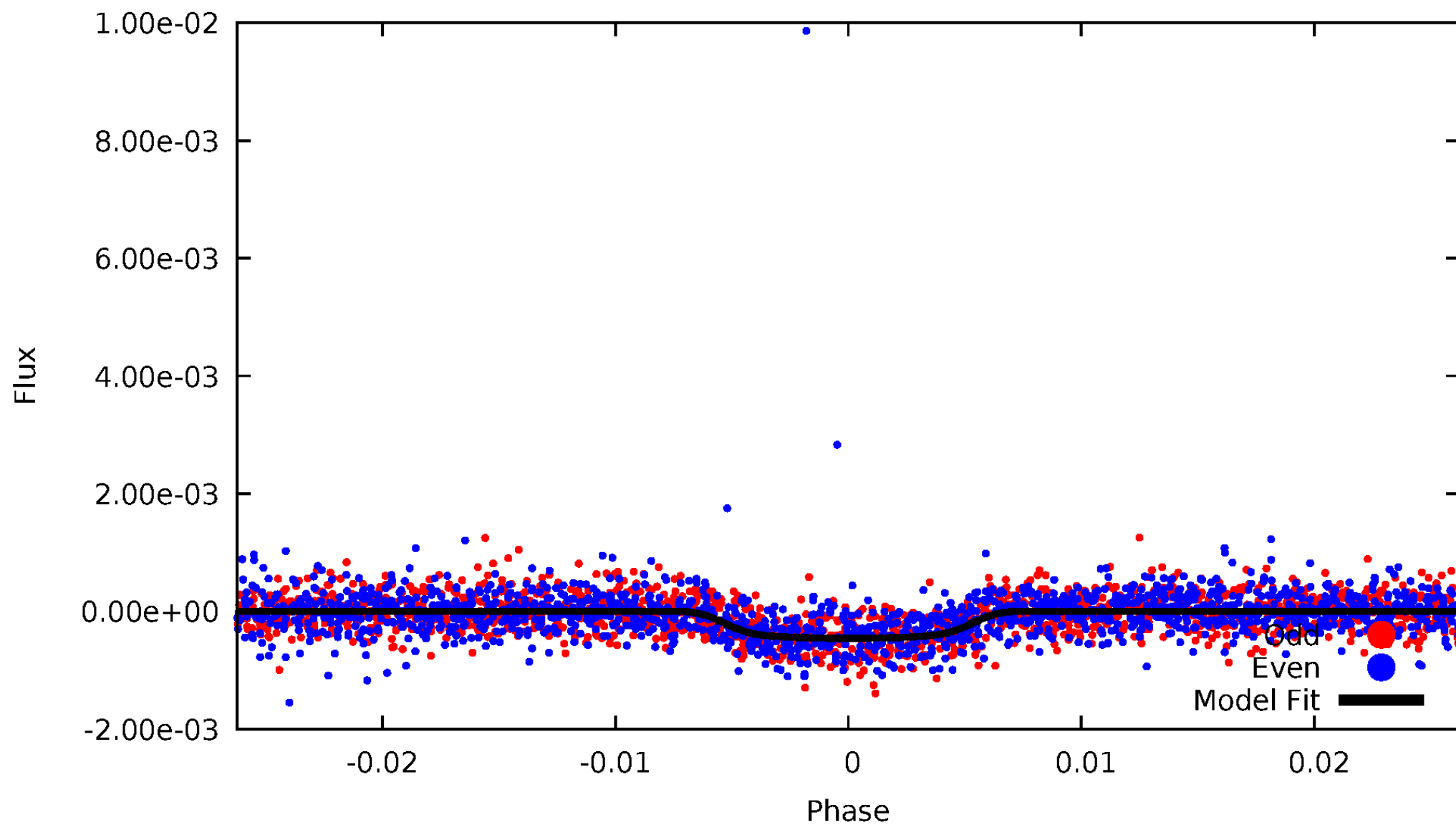


TCE 008564674-02



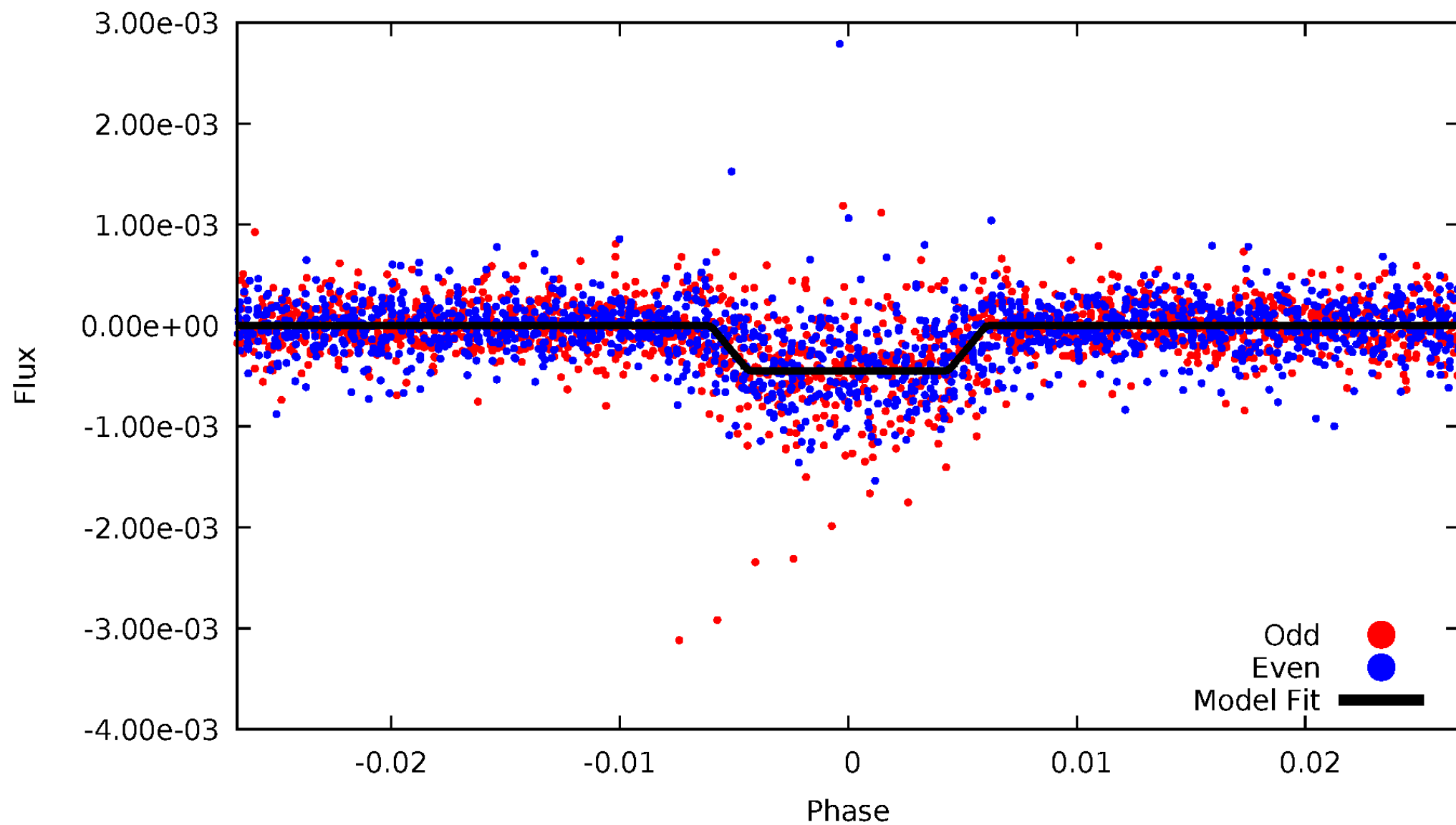
DV Odd/Even

TCE 008564674-02



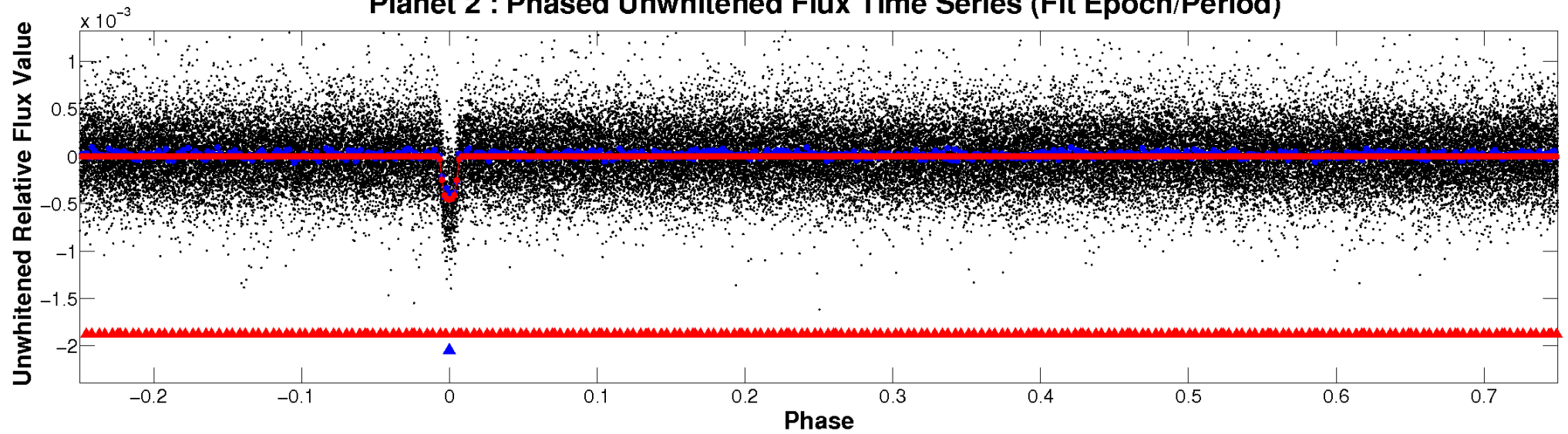
ALT Odd/Even

TCE 008564674-02

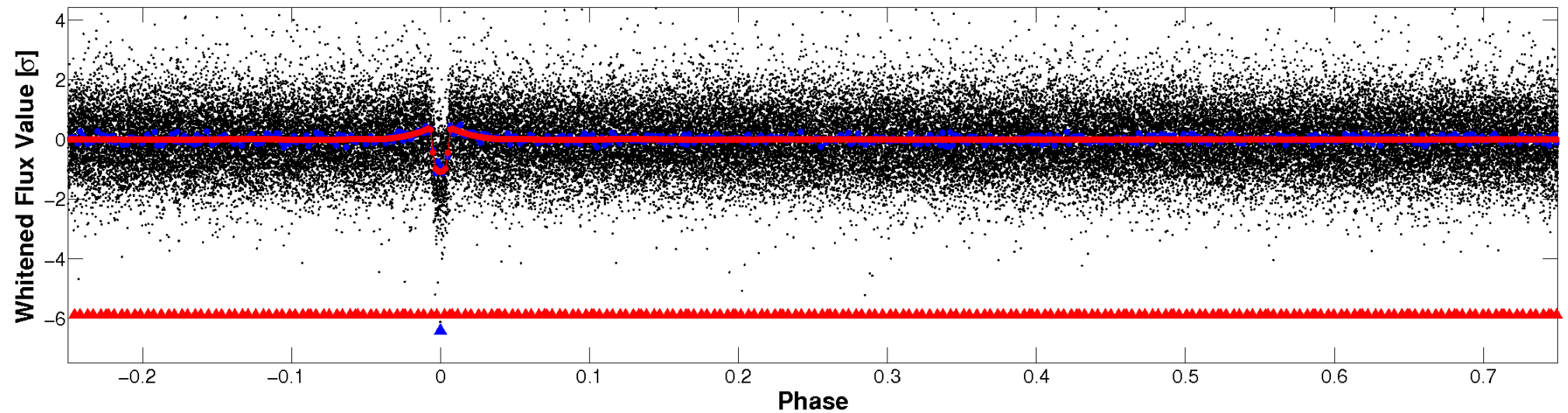


Non-Whitened Vs. Whitened Light Curve

Planet 2 : Phased Unwhitened Flux Time Series (Fit Epoch/Period)

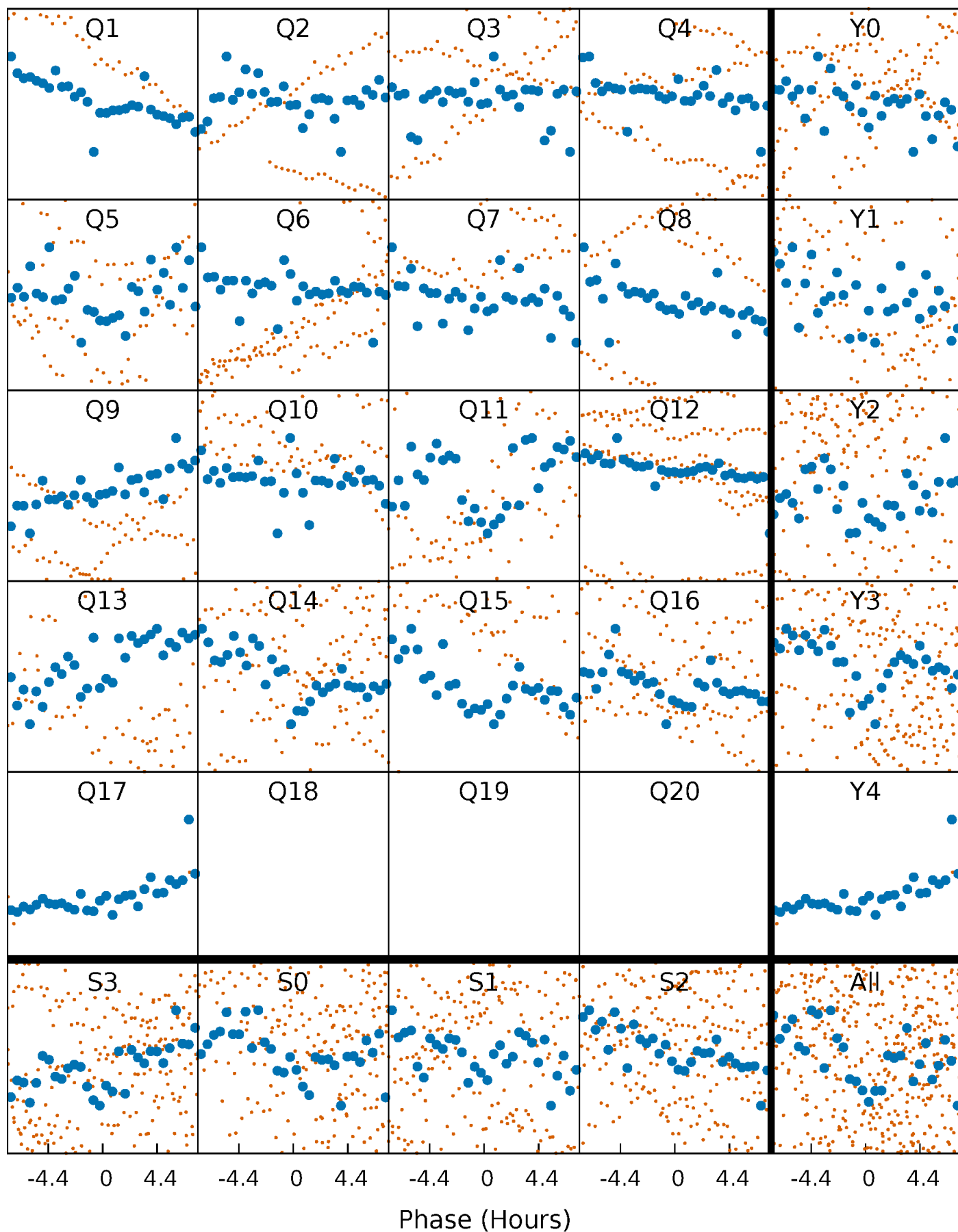


Planet 2 : Phased Whitened Flux Time Series (Fit Epoch/Period)



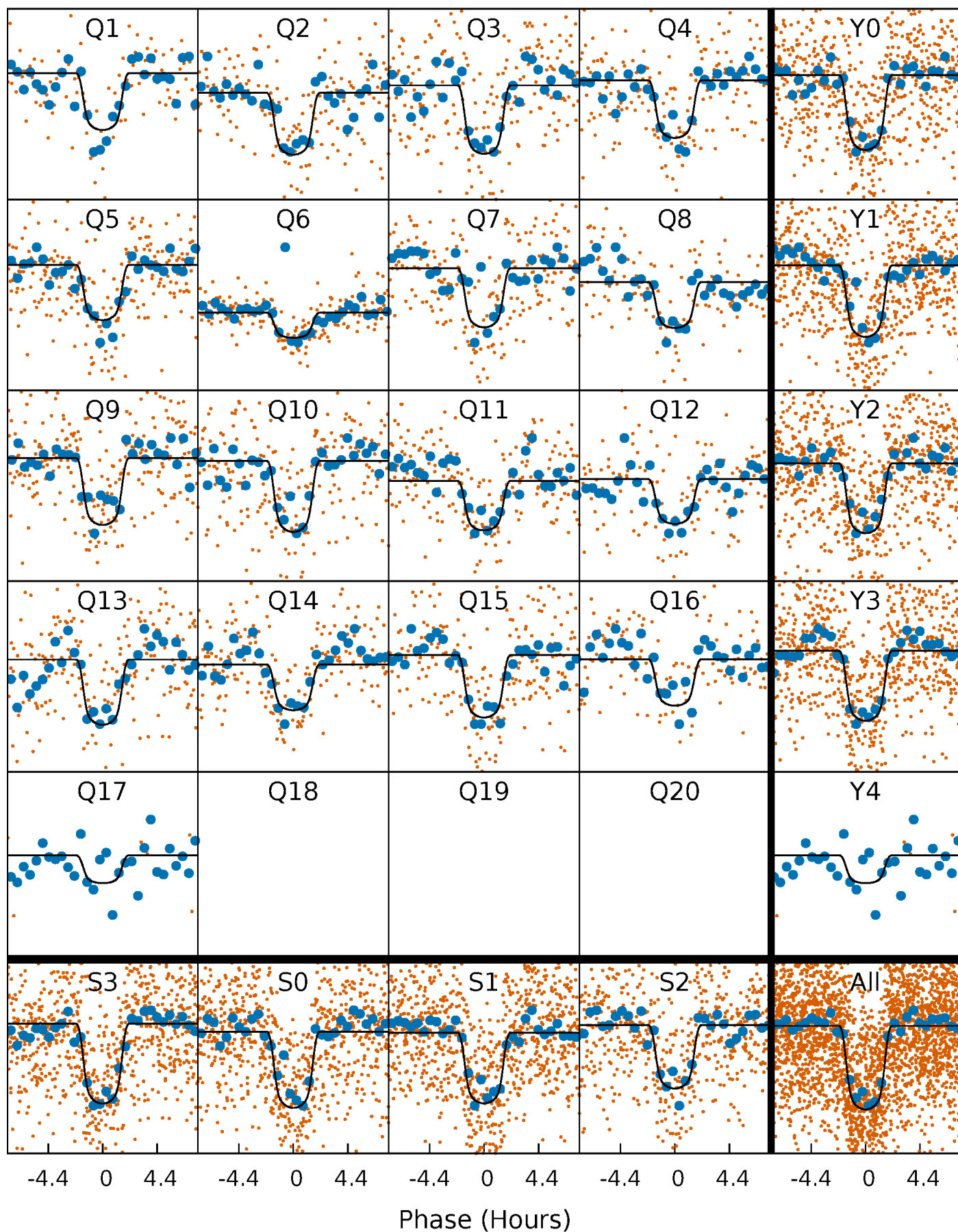
PDC Quarter-Phased Transit Curves

TCE 008564674-02 P= 12.247635 Days $T_0=138.219454$ (BKJD)



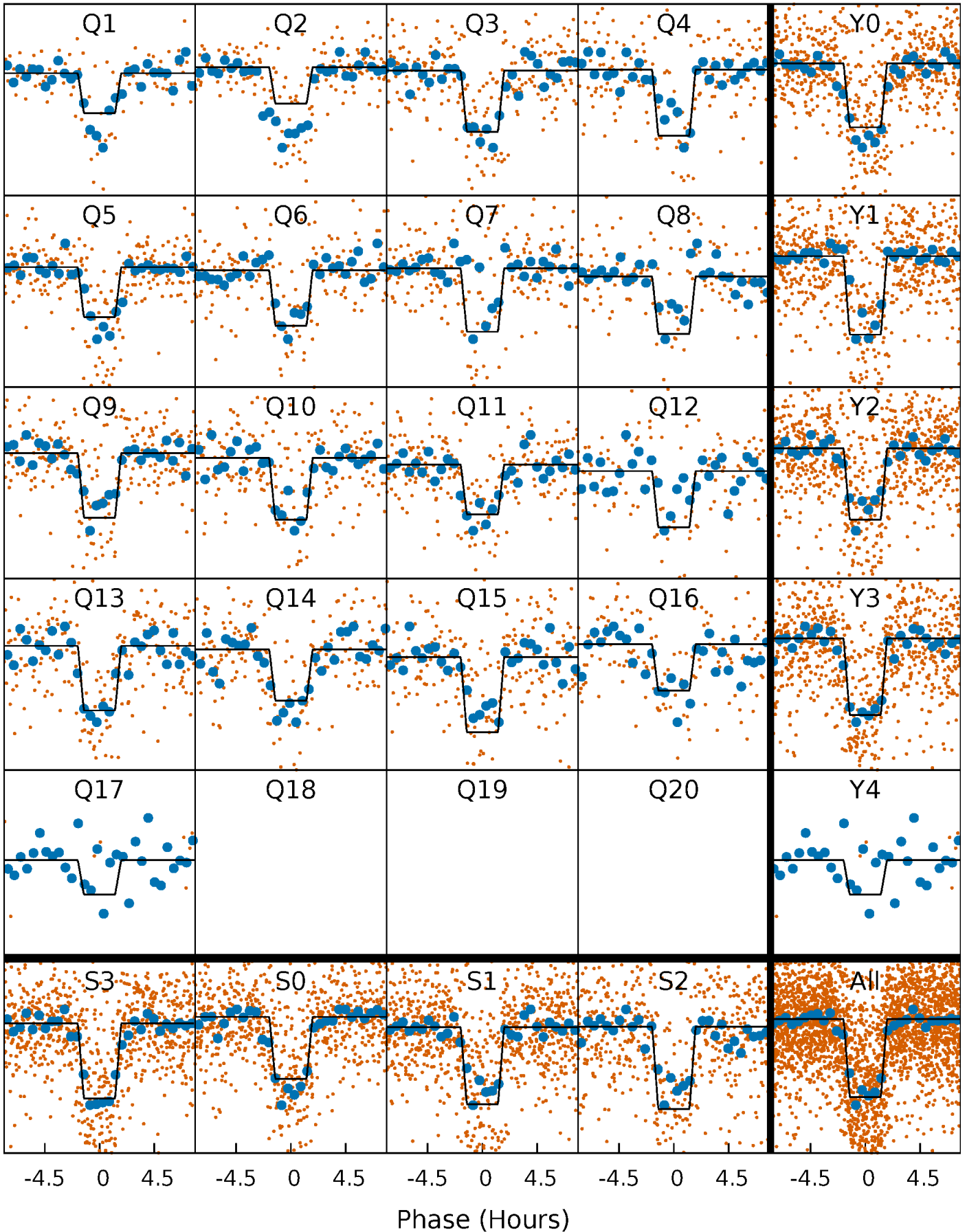
DV Quarter-Phased Transit Curves

TCE 008564674-02 P= 12.247635 Days $T_0=138.219454$ (BKJD)



Alt. Detrend Quarter-Phased Transit Curves

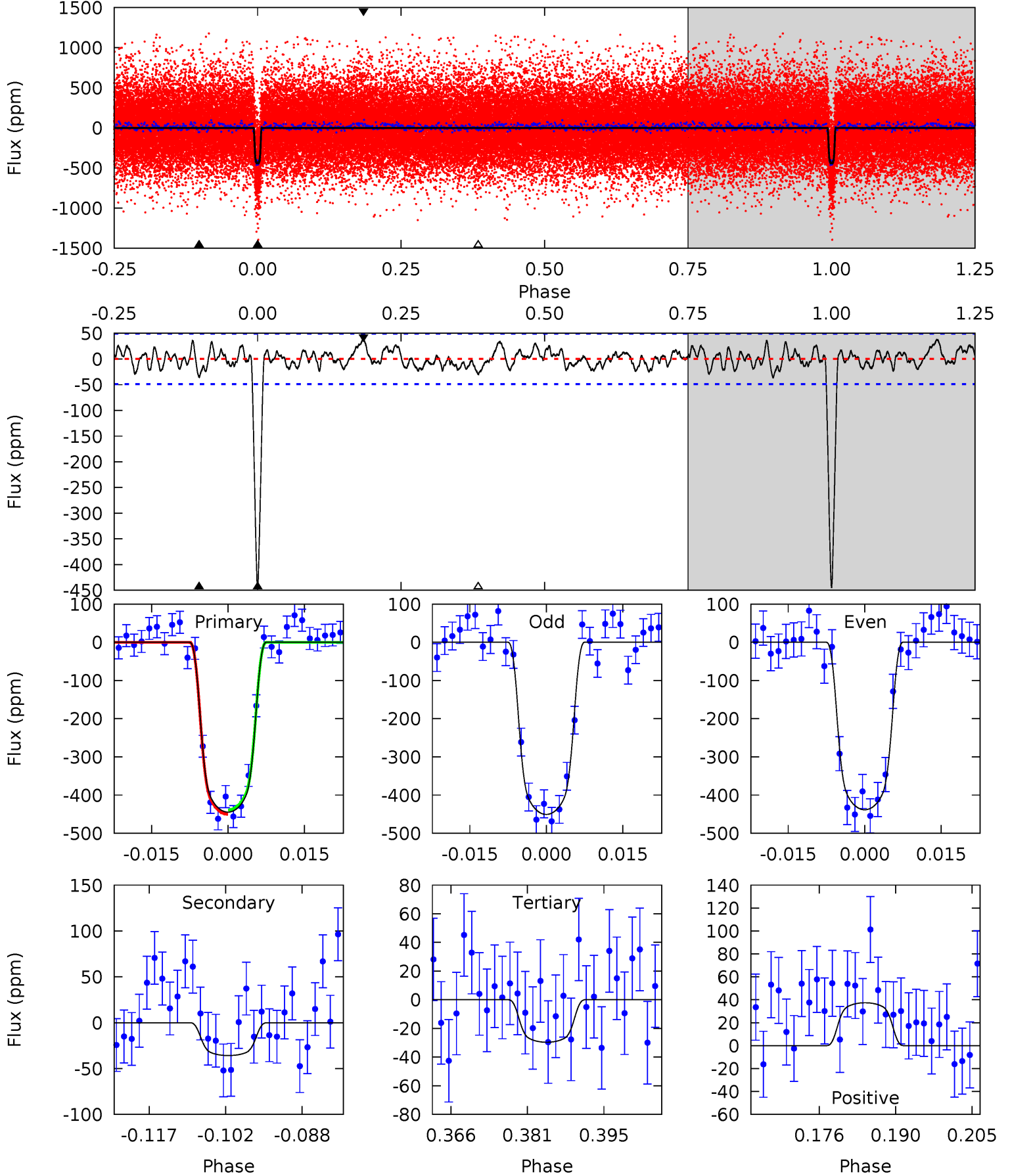
TCE 008564674-02 P= 12.247719 Days $T_0=138.214487$ (BKJD)



DV Model-Shift Uniqueness Test

008564674-02, $P = 12.247635$ Days, $E = 125.971819$ Days

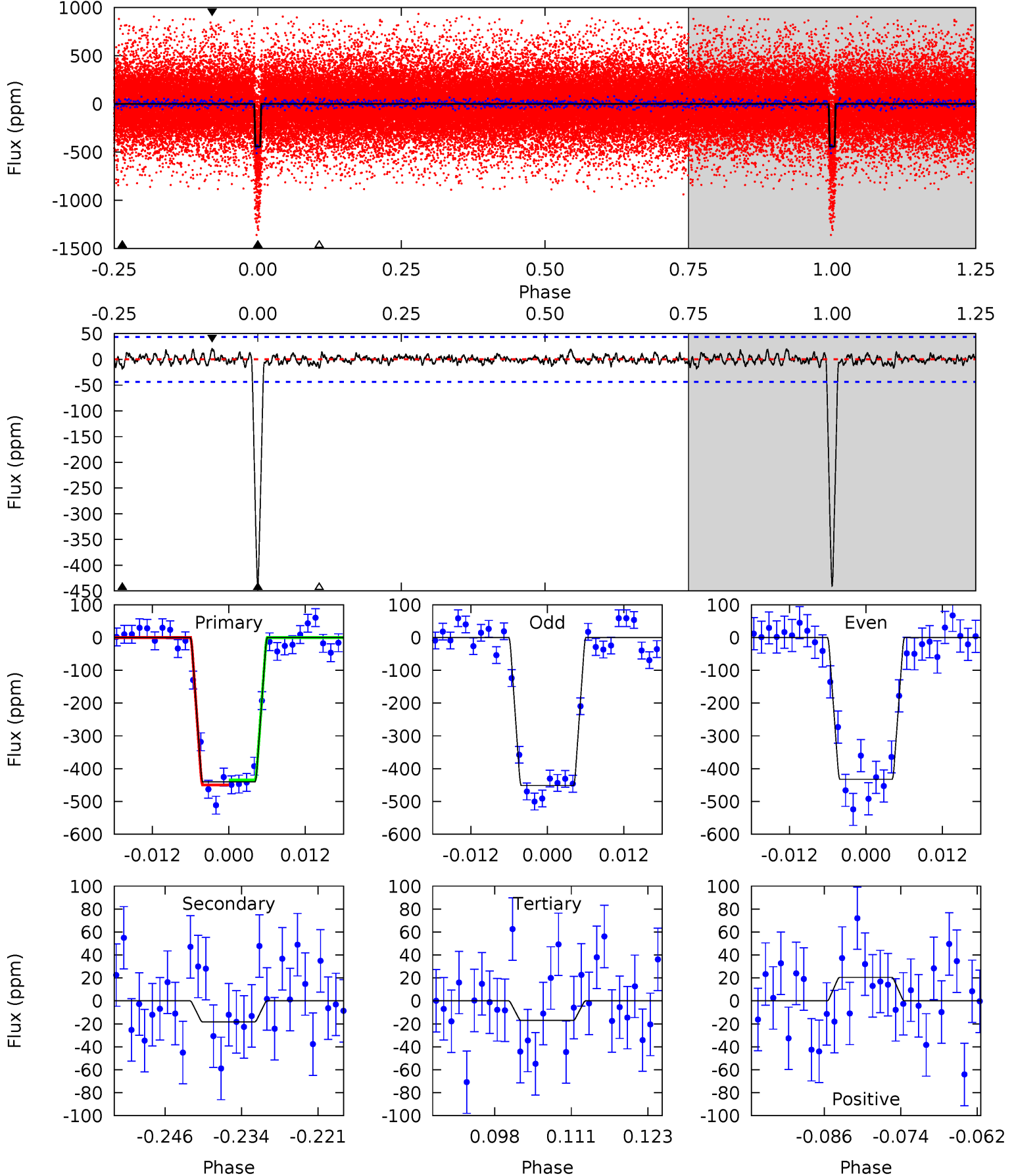
Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
44.9	3.62	3.00	3.78	4.95	2.44	1.37	41.9	41.2	0.63	-0.16	0.62	0.96	0.08	0.58



Alt Model-Shift Uniqueness Test

008564674-02, $P = 12.247719$ Days, $E = 125.966768$ Days

Pri	Sec	Ter	Pos	FA ₁	FA ₂	F _{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
50.4	2.09	1.95	2.34	4.99	2.50	0.68	48.4	48.0	0.14	-0.25	1.09	1.02	0.04	0.87



Stellar Parameters For KIC 008564674

	$T_{\text{eff}}(K)$	$\log(g)$	[Fe/H]	R (R_{\odot})	$M(M_{\odot})$	p_{\star} ($\text{g}\cdot\text{cm}^{-3}$)
	5741^{+78}_{-78}	$4.492^{+0.030}_{-0.128}$	$0.160^{+0.150}_{-0.150}$	$0.956^{+0.143}_{-0.048}$	$1.035^{+0.050}_{-0.074}$	$1.667^{+0.195}_{-0.566}$
	+1%/-1%	+1%/-3%	+94%/-94%	+15%/-5%	+5%/-7%	+12%/-34%
Source	SPE90	SPE90	SPE90	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
 TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 008564674-02 / KOI 2022.02

Detrend	Depth (ppm)	R_p (R_{\oplus})	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-36 ± 10	$2.61^{+0.22}_{-0.17}$	1077^{+43}_{-24}	3359^{+146}_{-167}	31^{+10}_{-9}
Alt.	-18 ± 9	$2.26^{+0.21}_{-0.16}$	1081^{+41}_{-27}	3162^{+213}_{-288}	21^{+11}_{-10}

T_{max} = Theoretical Maximum Planetary Temperature

T_{obs} = Observed Planetary Temperature (Assuming $A=0.3$)

A_{obs} = Observed Albedo (Assuming $T=0$)

If a secondary eclipse is present, the system is likely an EB if $T_{\text{obs}} \gg T_{\text{max}}$ AND $A_{\text{obs}} \gg 1.0$

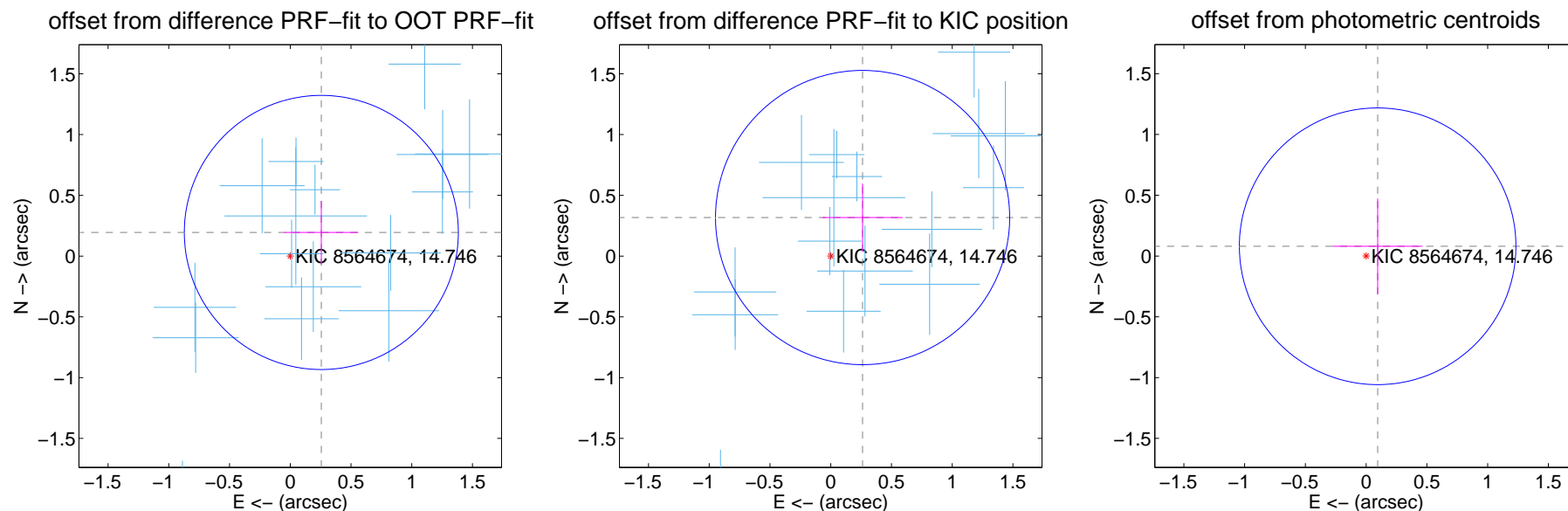
DV Centroid Data

Supplemental centroid analysis for 008564674-02. Kepler magnitude: 14.75. Transit SNR 25.74

There are 16 quarters with good PRF difference image offsets

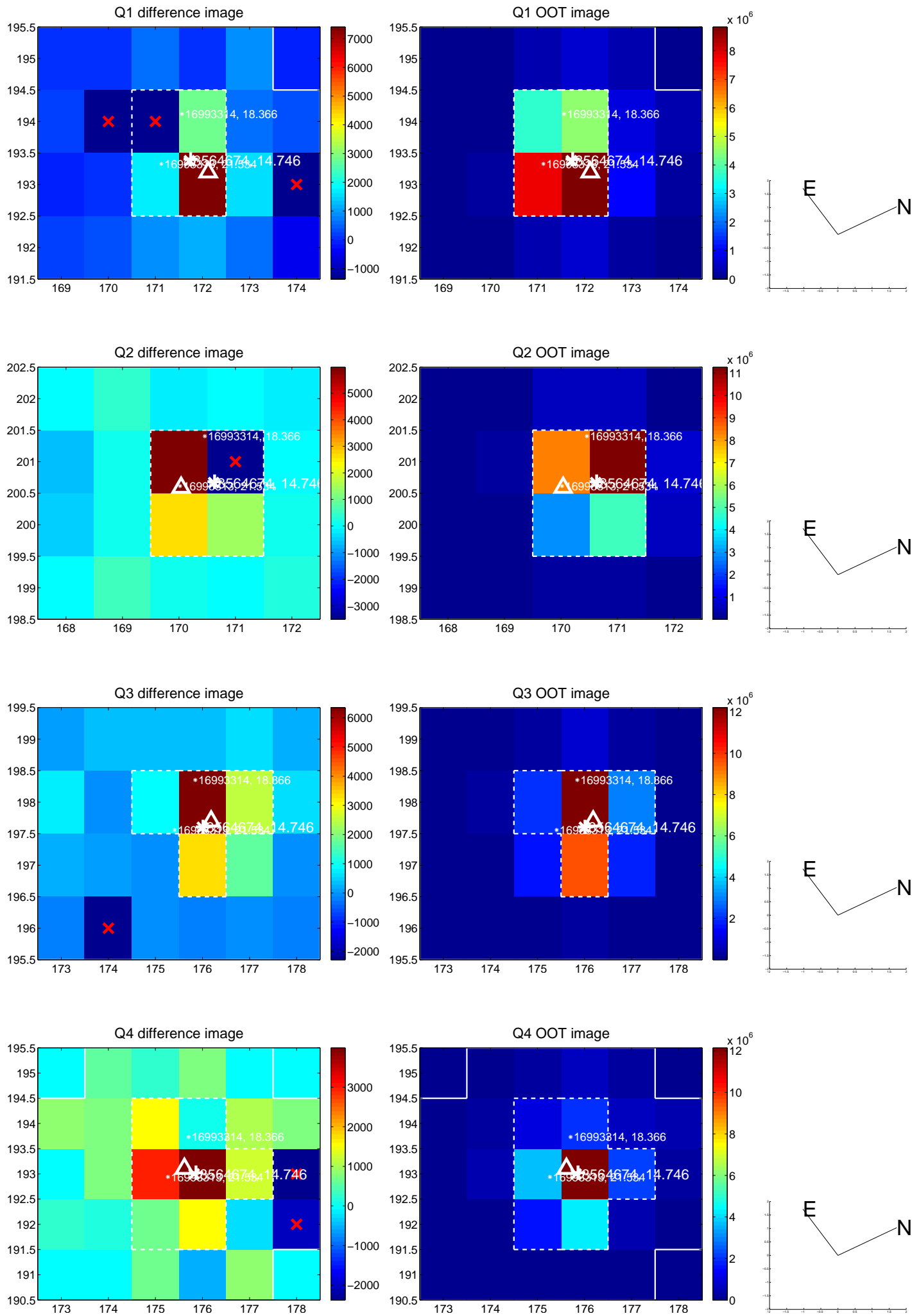
The direct PRF centroid is offset from the target star catalog position by about 0.15 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	0.321 ± 0.376	0.85	-0.256 ± 0.304	0.194 ± 0.260
PRF-fit source offset from KIC position	0.412 ± 0.404	1.02	-0.262 ± 0.330	0.317 ± 0.280
photometric centroid source offset	0.12 ± 0.38	0.33	-0.09 ± 0.37	0.08 ± 0.39

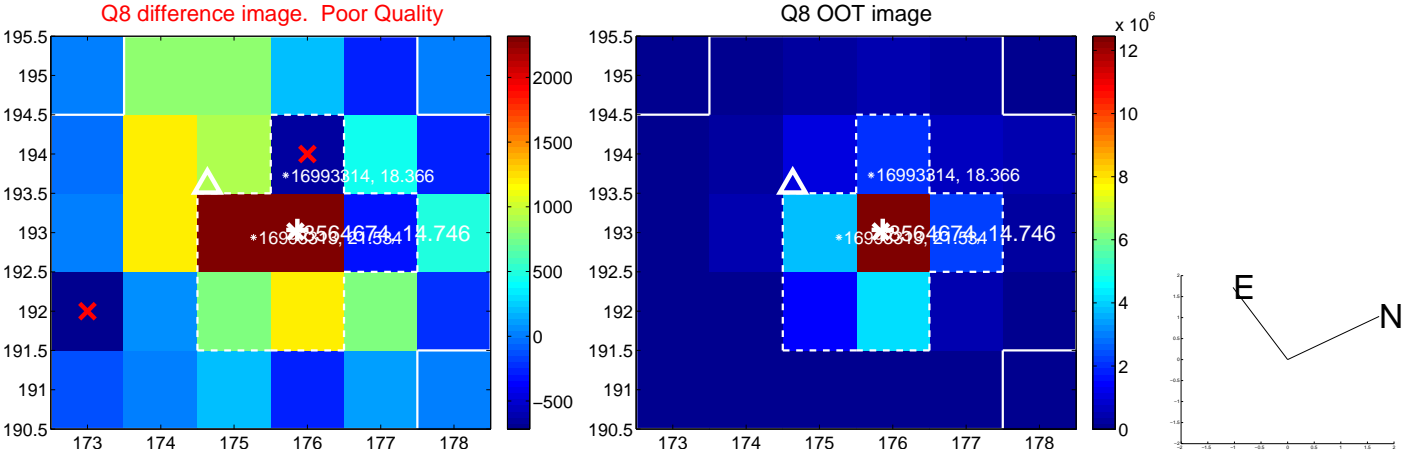
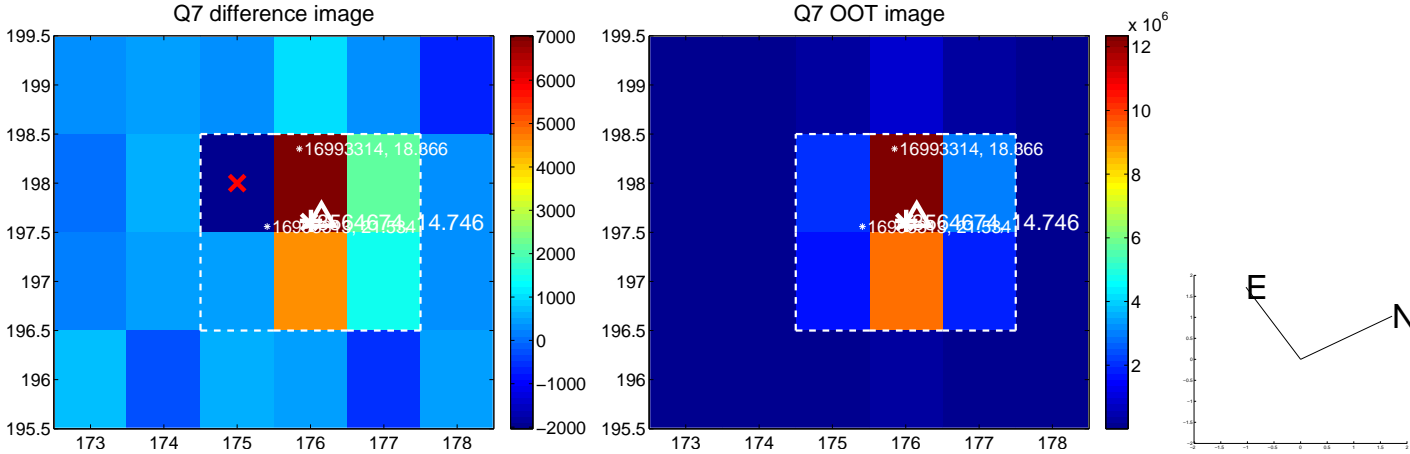
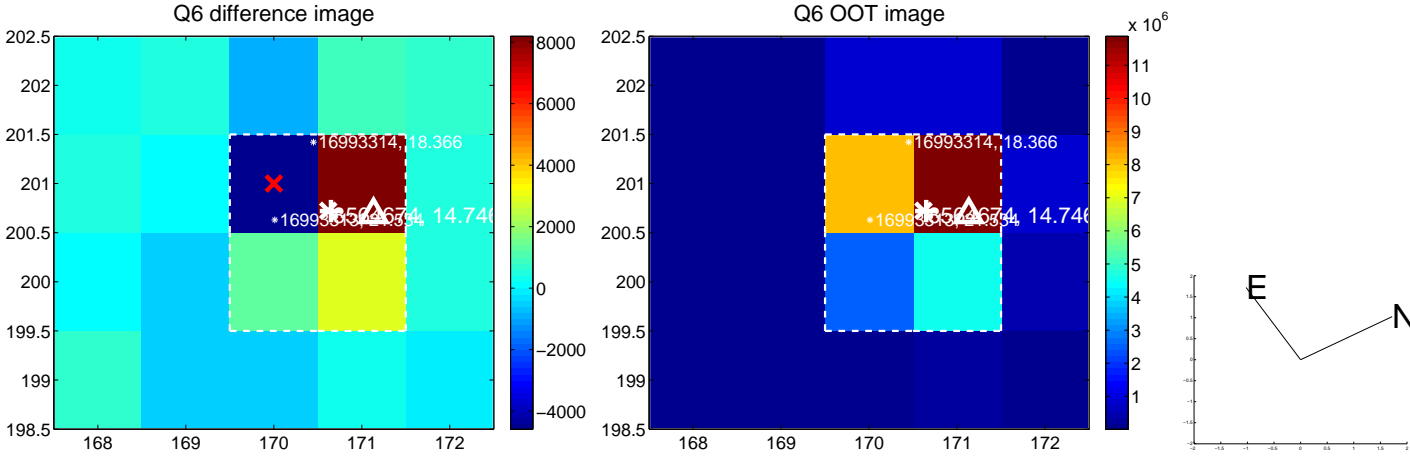
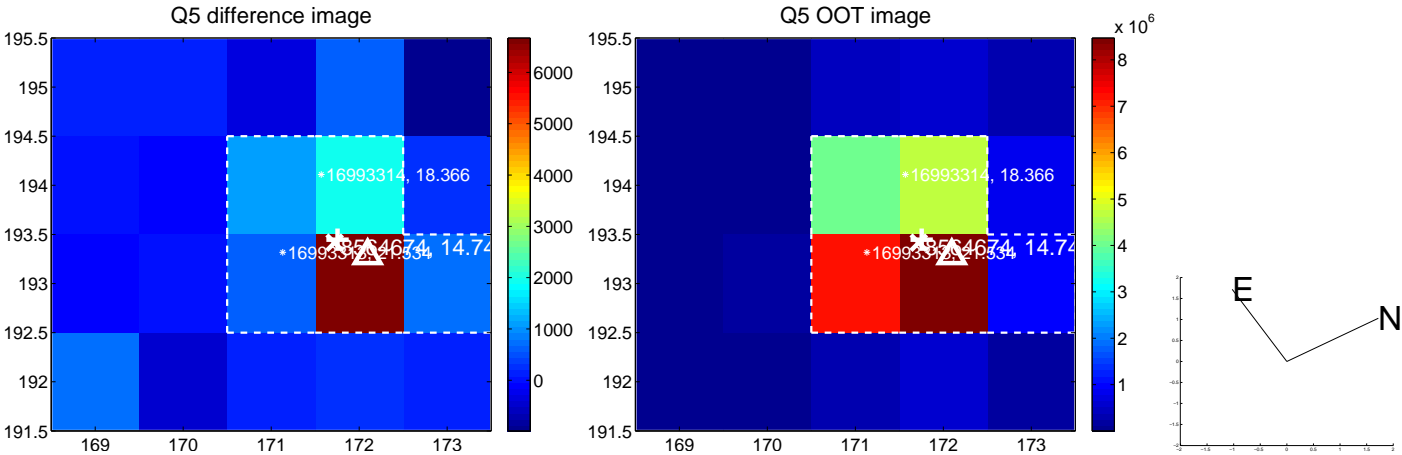


Centroid source offsets from the target star reconstructed from PRF and photometric centroids. **Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets**; magenta cross: average over quarters. Length of the crosses: one- σ uncertainty. Blue circle: three- σ . Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs > 15,000,000 are from the UKIRT catalog.

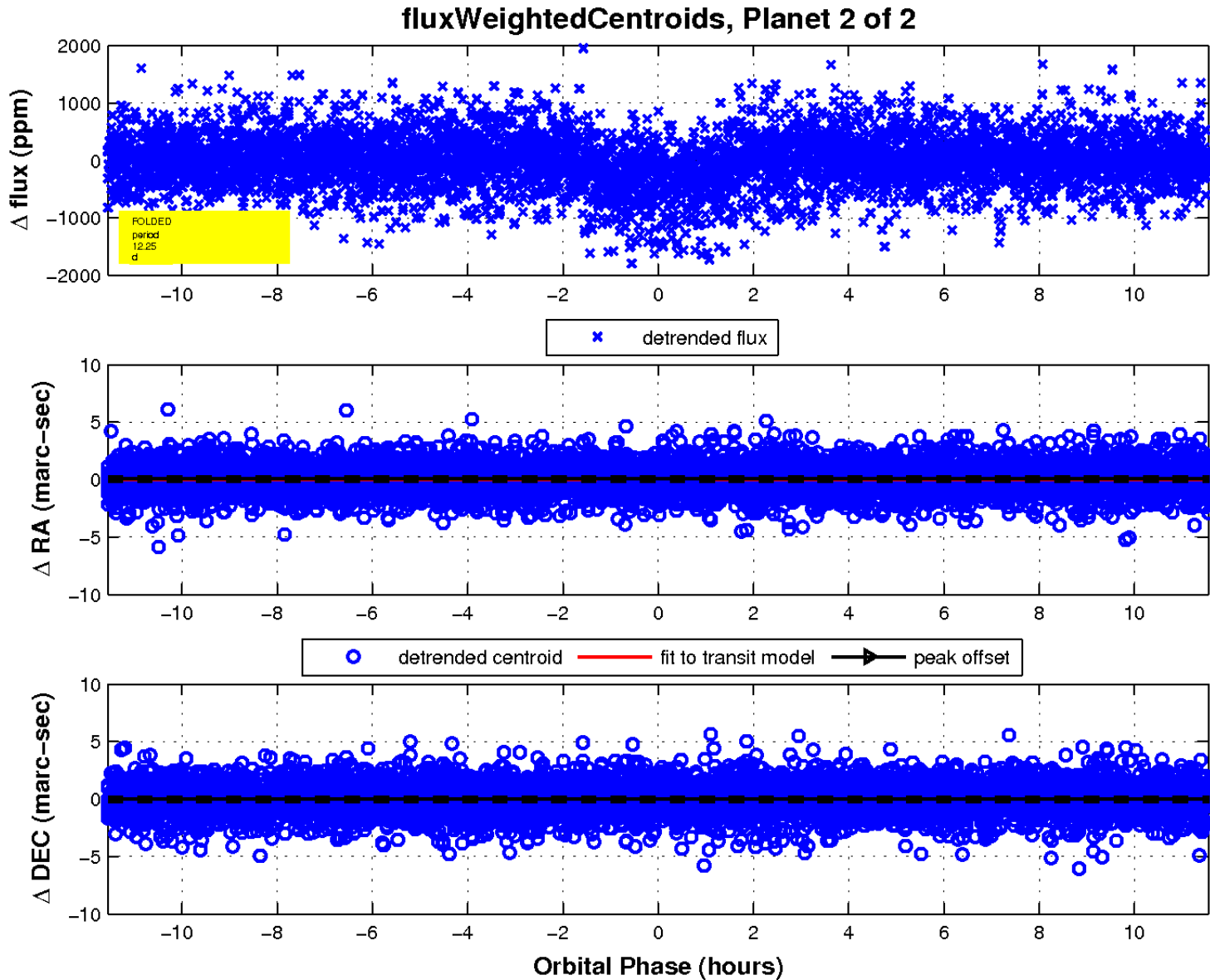
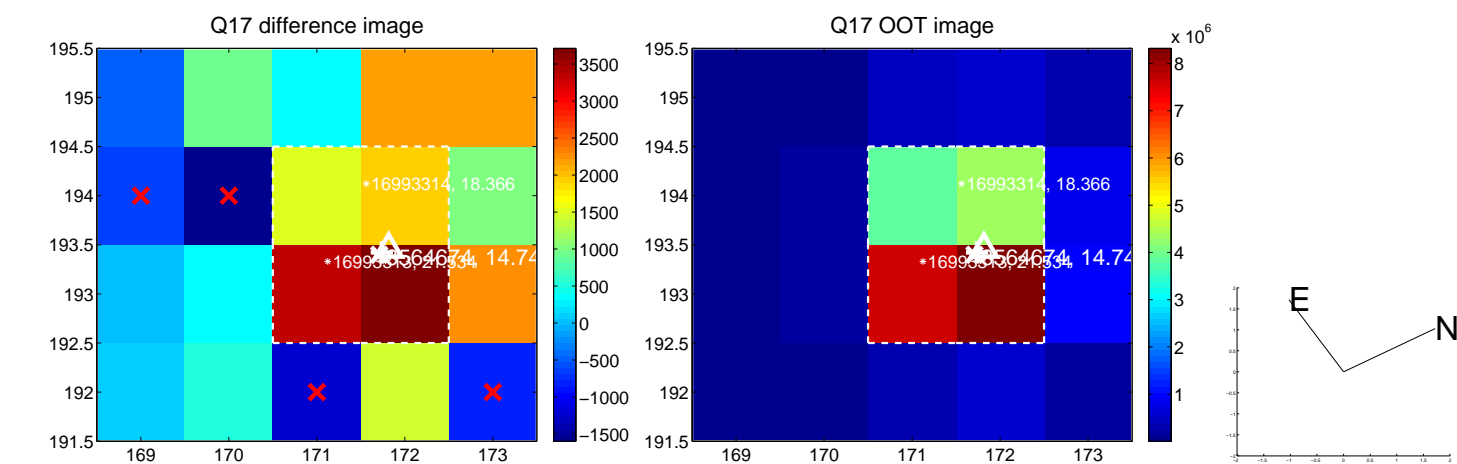
white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; +: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



white \times : KIC target position; $+$: OOT centroid; \triangle : difference centroid. red \times : large negative pixel value.



UKIRT Image

Declination

